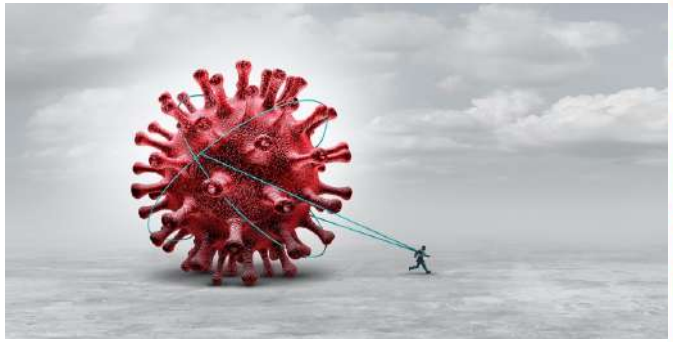
Lunes 17 de julio 2023 a las 10 horas



COVID Persistente:

De la definición al síntoma

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De la definición al síntoma

- Introducción
- Salud vs. Enfermedad
- Definiciones en Medicina
- COVID-19 y COVID Persistente
- Conclusiones

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Mirar todo desde una perspectiva diferente …

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Un 25% de los españoles cree que el Sol gira alrededor de la Tierra

Earthrising, or Earth rising above the moon's horizon.
A view from the Apollo 8th
(William Anders, 1968)

Perspective > Medscape > Impact Factor with F. Perry Wilson

COMMENTARY

Is Long COVID Even Real?

F. Perry Wilson, MD, MSCE

DISCLOSURES | November 09, 2021

JAMA Internal Medicine | Original Investigation

Association of Self-reported COVID-19 Infection and SARS-CoV-2 Serology Test Results With Persistent Physical Symptoms Among French Adults During the COVID-19 Pandemic

Joane Matta, PhD; Emmanuel Wiernik, PhD; Olivier Robineau, MD, PhD; Fabrice Carrat, MD, PhD; Mathilde Touvier, PhD; Gianluca Severi, PhD; Xavier de Lamballerie, MD, PhD; Hélène Blanché, PhD; Jean-François Deleuze, PhD; Clément Gouraud, MD, MSc; Nicolas Hoertel, MD, PhD; Brigitte Ranque, MD, PhD; Marcel Goldberg, MD, PhD; Marie Zins, MD, PhD; Cédric Lemogne, MD, PhD; for the Santé, Pratiques, Relations et Inégalités Sociales en Population Générale Pendant la Crise COVID-19-Sérologie (SAPRIS-SERO) Study Group

Matta J, et al. JAMA Intl Med 2021.

The New York Times

A long Covid patient entering a hospital in Sacramento in 2021. The Government Accountability Office estimates that the illness has affected 7.7 million to 23 million people in the United States. Jim Wilson/The New York Times

Long Covid Is Keeping Significant Numbers of People Out of Work, Study Finds

An analysis of workers' compensation claims in New York found that 71 percent of claimants with long Covid needed continuing medical treatment or were unable to work for six months or more.

The NYT, 24-1-2023

World Health Organization

Health Topics | Countries | Newsroom | Emergencies

Home / Disease Outbreak News / Item / Pneumonia of unknown cause – China

Pneumonia of unknown cause – China

5 January 2020

On 31 December 2019, the WHO China Country Office was informed of cases of pneumonia of unknown etiology (unknown cause) detected in Wuhan City, Hubei Province of China. As of 3 January 2020, a total of 44 patients with pneumonia of unknown etiology have been reported to WHO by the national authorities in China. Of the 44 cases reported, 11 are severely ill, while the remaining 33 patients are in stable condition. According to media reports, the concerned market in Wuhan was closed on 1 January 2020 for environmental sanitation and disinfection.

The causal agent has not yet been identified or confirmed. On 1 January 2020, WHO requested further information from national authorities to assess the risk.

National authorities report that all patients are isolated and receiving treatment in Wuhan medical institutions. The clinical signs and symptoms are mainly fever, with a few patients having difficulty in breathing, and chest radiographs showing invasive lesions of both lungs.

According to the authorities, some patients were operating dealers or vendors in the Huanan Seafood market. Based on the preliminary information from the Chinese investigation team, no evidence of significant human-to-human transmission and no health care worker infections have been reported.

https://www.who.int/emergencies/disease-outbreak-news/item/2020-DON229

(5 enero 2020)

La primera publicación sobre COVID-19

*"**It is a limited outbreak,**" says Xu Jianguo, "**If no new patients appear in the next week, it might be over.**"*

INFECTIOUS DISEASES

New SARS-like virus in China triggers alarm

Pneumonia outbreak in Wuhan appears to subside, but the virus could re-emerge

By **Jon Cohen** and **Dennis Normile**

Had the nightmare returned? That's the question many were asking in the first 10 days of this year, after a new form of pneumonia emerged in Wuhan, a megacity in central China. The outbreak revived memories of severe acute respiratory syndrome (SARS), the disease that emerged in China in 2002 and sickened 8098 people in 37 countries before it was quashed in the summer of 2003. Like SARS, the Wuhan pneumonia cases were linked to a market selling myriad species of live animals, and they appear to be caused by a new member of the coronavirus family closely related to the SARS virus. And once again, China appeared to be less than forthcoming with information.

Today, global health experts are breathing a little easier. As *Science* went to press, only one of 42 people known to be infected had died: a 61-year-old man already suffering from abdominal tumors and chronic liver disease. (SARS had a 9.6% mortality rate.) No evidence suggests the virus easily passes between humans, which can turn a local problem into a global crisis. And Chinese researchers have now shared the sequence of six genomes of the as-yet-unnamed virus with the world, which scientists elsewhere have used to quickly develop and publish a diagnostic test. Ralph Baric, a coronavirus researcher at the University of North Carolina, Chapel Hill, is already trying to synthesize live viruses from the data so that he can study it in animals.

Still, many questions remain. Researchers have not identified the animal species at the marketplace that harbored the virus. When it emerged and the true number of people infected remain a mystery. Meanwhile, a case in Thailand, reported on 13 January—in a tourist who flew from Wuhan to Bangkok—led World Health Organization (WHO) Director-General Tedros Adhanom Ghebreyesus to consult experts on outbreak responses. The patient had not visited the Wuhan market at the center of the outbreak but had been to other animal markets, suggesting the virus has spread within Wuhan, the *South China Morning Post* reported on 14 January.

The first known patient developed symptoms—which can include difficulty breathing and fever—on 8 December 2019. Officials closed the seafood market on New Year's Day, and no new patients have been identified in Wuhan since 3 January. The virus was not found in 763 close contacts of those infected, or in health care workers, who often fall ill during outbreaks of viruses that can transmit between humans.

"It is a limited outbreak," says Xu Jianguo, who runs an infectious disease laboratory at the Chinese Center for Disease Control and Prevention and heads an evaluation committee that's advising the Chinese government. "If no new patients appear in the next week, it might be over."

that it was "reassured of the quality of the ongoing investigations and the response measures implemented in Wuhan, and the commitment to share information regularly."

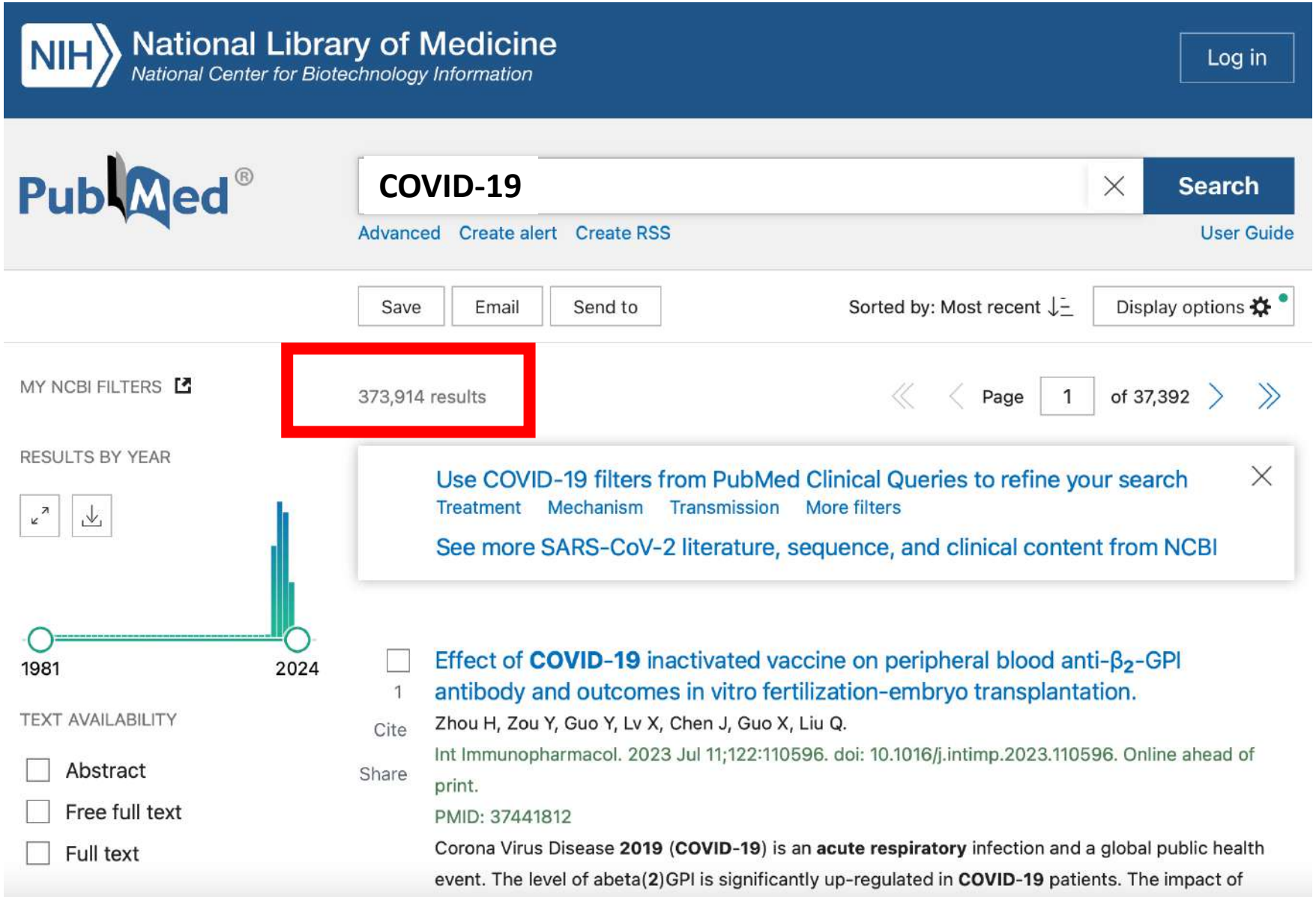
But others criticized the way early information came out. News that researchers had discovered a novel coronavirus came in an 8 January story in *The Wall Street Journal*; Xu confirmed the finding on a state-run TV station several hours later. "It's not a good situation when *The Wall Street Journal* [reports] a SARS-like coronavirus before the Chinese government announces it," Baric says. On 10 January, Jeremy Farrar, an infectious disease specialist who heads the London-based Wellcome Trust, tweeted his worry about rumors that the Chinese government did not share "critical public health information" because Chinese researchers wanted to ensure publication of their findings in high-profile journals first.

Less than 12 hours later, however, evolutionary biologist Edward Holmes of the University of Sydney published an "initial"

Published by AAAS

Cohen J, Normile D. Science 2020.
(17 enero 2020)


XCMG



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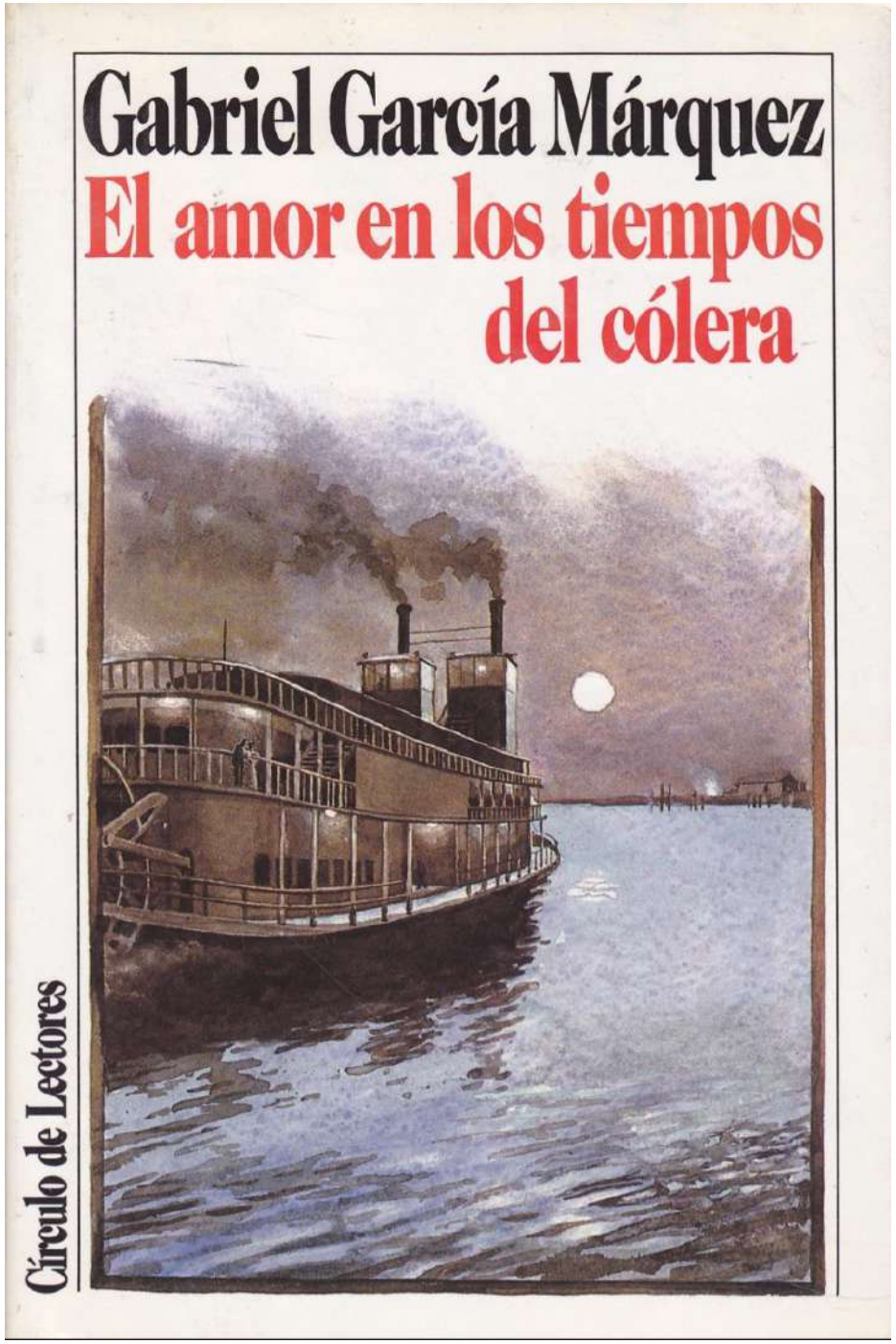
PubMed (14 julio 2023).



European Journal of Epidemiology
https://doi.org/10.1007/s10654-020-00639-y

CORONA DISPATCH

Humanistic Epidemiology: Love in the time of cholera, COVID-19 and other outbreaks

Joan B. Soriano[1,2]

Received: 14 April 2020 / Accepted: 22 April 2020

Soriano JB. Eur J Epidemiol 2020.

Convivir
Salud pública

Cada día es más frecuente que leamos y oigamos la expresión 'estudio epidemiológico'. Los medios de comunicación la han usado ante problemas como la crisis de las 'vacas locas', el síndrome respiratorio agudo severo (SARS), la gripe aviar y otros. Pero también las asociaciones ciudadanas y los particulares argumentan apoyándose en esos estudios o solicitan que se realicen ante problemas de nivel local, sobre todo problemas de tipo ambiental. He aquí una pequeña reflexión acerca de este cuestión. Por **Juan B. Bellido**

Doctor, tengo una epidemia aquí

Sanitarios chinos con ropa protectora hablan con una mujer que puede estar infectada por el virus del síndrome respiratorio agudo severo (SARS).

Antiguamente la palabra *epidemia* producía miedo. El *genio epidémico* de algunas enfermedades era bien conocido. Los viejos higienistas tenían en cuenta, además, la *constitución epidémica*, es decir, las condiciones que facilitaban la propagación de la enfermedad en un lugar y no en otro. El genio y la constitución epidémicas, pues, definían el marco en el que se desarrollaban las epidemias de las enfermedades infecciosas agudas. La enfermedad epidémica advenida como un peligro sobre la población alteraba el pulso demográfico de una comunidad y dejaba un rastro de muerte y migración.

La palabra *epidemia* produce miedo, y con razón. Así como en el individuo el enfermo el dolor alcanza sólo a sus allegados, en la epidemia es el cuerpo social el que se resiente; la epidemia atañe a los que enferman y conmociona a los sanos que se ven amenazados en la distancia. Es toda una colectividad la que se agita: "La tedionda enfermedad que ritera dinastra en el ambiente", en palabras que el doctor Salvat plasmó en su *Tratado de higiene*, en 1926. Pero ¿qué alcance ha de tener la enfermedad para que haya epidemia?

La noción de epidemia puede ser difícil de precisar en su arranque. Su génesis es un continuo, donde buscamos inútilmente el número de casos que nos marquen la frontera. Ese punto es una quimera, no existe. Sólo existen señales cuya interpretación es complicada y se ha de tener una buena dosis de conocimientos biológicos, estadísticos y sentido común. Son numerosos en los que tomando las palabras de Blaise Pascal, "hay suficiente luz para aquellos que quieren ver y suficiente oscuridad para los que tienen la disposición contraria".

Usamos el vocablo *brote* para designar epidemias pequeñitas ante las que no cabe inquietarse mucho. En su expresión mínima, la tensión epidémica puede generarse tras el diagnóstico de un único caso. Sólo es requisito indispensable que sea una enfermedad grave con potencial epidemiógeno: un enfermo de cólera desata la alerta en una comunidad donde el cólera sea cosa insólita.

Las epidemias y la tensión epidémica, pues, se han relacionado tradicionalmente con enfermedades infecciosas agudas; enfermedades que tienen un período de incubación relativamente corto, de horas, días o semanas. Su ritmo de aparición es rápido, brusco y por ello muy visible. La gripe, las infecciones por Salmonella o Legionella son ejemplos de ello.

Pero la epidemiología —en contra de lo que sugiere su nombre— no se ocupa sólo de las epidemias. Desde hace muchas décadas las enfermedades crónicas —y virtualmente cualquier enfermedad— con períodos de incubación o latencia largos, también son estudiadas bajo el prisma de la epidemiología. Así, es muy común ver estudios epidemiológicos de enfermedades infecciosas o no infecciosas, agudas o crónicas. Estudios epidemiológicos sobre cáncer, enfermedades cardiovasculares o diabetes han sido muy relevantes en la historia de las ciencias médicas. Atendiéndonos a su origen, la epidemiología es una especialidad médica cuyo foco de atención recae en la población en lugar de en el individuo, que tiene un lugar preferente y constante en los servicios de salud pública, en Sanidad.

La sociedad rica vive una mezcla de nuevos peligros y exigencia de seguridad que sacraliza la salud

Los estudios sobre problemas de tipo local generan muchas expectativas, pero los resultados son escasos

Los problemas locales

Del mismo modo que un paciente aquejado de síntomas acude al médico, un colectivo de personas que percibe un peligro para la salud de sus miembros acude a Sanidad. La diferencia radica en la dimensión primordialmente colectiva del problema. "El síntoma es la clínica de que el caso es la epidemiología". Cuando se presenta un brote de gastroenteritis, de legionelosis o un caso de cólera, nadie duda de la intervención urgente de los servicios de epidemiología. Pero, en otros casos, ¿se puede requerir la intervención de Sanidad para que se inicie un estudio epidemiológico? Evidentemente sí, pero con matices.

La frecuencia con que leemos y oímos la expresión *estudio epidemiológico* en los últimos años es creciente. Algo nuevo está ocurriendo: muchas veces en relación con riesgos ambientales. La *constitución epidémica* de los países ricos comporta una mezcla de nuevos peligros y de exigencia de seguridad para la salud, que en ocasiones adquiere tintes de bien sacralizado. Por otra parte, las enfermedades objeto de demandas de estudios epidemiológicos locales ya no son sólo aquellas con genio epidémico, son otras. Se cree que hay más casos de cáncer en una comunidad debido a que hay industrias contaminantes. Ninguna de alta tensión o un transformador cerca. Son, en general, demandas dirigidas contra instalaciones sobre las que recae, con mayor o menor fundamento, una sospecha. Instalaciones visibles, pues son conceptuales las quejas sobre nuevos materiales de las tuberías de conducción de agua, o con sustancias químicas en los alimentos, pongamos por caso.

Dificultad de probar

Es del todo lícito que un colectivo que siente amenazada su salud recurra a los servicios de Sanidad. No queremos estar sometidos a una exposición ambiental involuntaria, es verdad. Y cuando sentimos su peso en la nuca buscamos el daño que ya ha producido: no es difícil entonces encontrar alrededor enfermos y enfermedades para las que quisiéramos una explicación. "Doctor, creo que hay una epidemia en mi barrio", permítasenos decir en tono ligero. Pero la gestión de este tipo de nuevas demandas requiere un tratamiento diferente al que estábamos enfocados los epidemiólogos que trabajamos en primera línea, cerca del público.

Las dificultades de estos estudios a escala local son muchas, las expectativas de alcanzar resultados positivos, escasas. Hay problemas locales que se han de resolver en un ámbito general. Ahora bien, hoy en día, la posibilidad de disponer de información veraz y actualizada sobre casi cualquier asunto es grande y debe ser transmitida a los ciudadanos, con sus certezas y sus limitaciones. Persuadirlos, comunicarse. Y no es sencillo. Es imprescindible para ello un contexto de buena relación, de confianza, entre los servicios de salud pública y la población, cuando de una buena relación médico-paciente se trataba.

Lo que el ciudadano debe saber, también, es que cuando los riesgos son pequeños, los estudios epidemiológicos deben sortear grandes dificultades para demostrar relaciones de causa-efecto. Que a veces demostrar lo obvio no es cosa inmediata. Y más todavía, que es posible que exista una transgresión ambiental evidente sin efecto alguno en las personas (aún y allí). De ahí que sustentar todo el peso de la demanda en los daños producidos en la salud puede ser incluso contraproducente, porque no los haya, o no sean perceptibles (allí, aún). Cuando un automovilista circula en dirección prohibida con exceso de velocidad y borracho, puede que no haya atropellado a nadie, pero eso no le exime de culpa y la aplicación de una buena sanción.

En *Historia de las epidemias*, J. L. Beltrán Moya resume los pilares del combate contra las epidemias: fuego, oro y horca (desinfección, dinero y castigo). Sin menosprecio de los métodos que la civilización ha ido incorporando a estos tan primitivos, cuando una industria contamina más de lo permitido o una instalación está ubicada en lugar indebido, no es imprescindible buscar enfermos y perseguir un estudio epidemiológico —que también—, es el momento de actuar con todo el peso de la ley.

Juan B. Bellido es médico de la Sección de Epidemiología del Centro de Salud Pública de Castellón.

Bellido J. El Pais 08-12-2007.

De la definición al síntoma

- Introducción
- **Salud vs. Enfermedad**
- Definiciones en Medicina
- COVID-19 y COVID Persistente
- Conclusiones

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Salud: La definición de la OMS

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En 2014 se añadió una 4ª dimensión:
"…la Salud Espiritual."

Dr. Andrija Štampar (1888-1958). WHO. 1948.

The World Health Organization is following developments on this topic closely. Researchers and funding agencies, too, must give more urgent consideration to the definition of COVID recovery and whether to adopt the long COVID terminology – and they must put the patient voice at the centre of the process.

It seems the WHO is listening. In August, director-general Tedros Adhanom Ghebreyesus told a meeting of COVID patient groups: "We have received your SOS. We have heard loud and clear that long COVID needs recognition, guidelines, research and ongoing patient input and narratives, to shape the WHO response from here on."

Nature | Vol 586 | 8 October 2020.

nature

politicians break that covenant, they endanger the health of people, the environment and societies.

This is why *Nature*'s news correspondents will redouble their efforts to watch and report on what is happening in politics and research worldwide. It is why authors of our expert commentaries will continue to assess and critique developments; and why the journal is looking to publish more primary research in political science.

And, in these editorial pages, we will continue to urge politicians to embrace the spirit of learning and collaboration, to value different perspectives, and to honour their commitment to scientific and scholarly autonomy.

The conventions that have guided the relationship between science and politics are under threat, and *Nature* cannot stand by in silence.

Let patients help define long-lasting COVID symptoms

The terminology for long-lasting COVID symptoms – and the definition of recovery – must incorporate patients' perspectives.

Breathlessness and fatigue are among the continuing and debilitating symptoms being reported by people with COVID-19 – often months after the onset of the disease, and often long after they have been declared recovered.

Researchers and clinicians have yet to agree on a name for these ongoing symptoms. The literature includes "post-COVID syndrome" and "chronic COVID-19". Now, researchers, patient groups and those affected by the condition are urging that "long COVID" be used.

They are also calling for the definition of recovery from COVID-19 to be based on criteria that extend beyond just testing negative for COVID. People's symptoms should be considered, too, such as chest heaviness, breathlessness, muscle pains, palpitations and fatigue, as Nisreen Alwan, a public-health researcher at the University of Southampton, UK, wrote in a World View article in August (N. A. Alwan

The World Health Organization is following developments on this topic closely. Researchers and funding agencies, too, must give more urgent consideration to the definition of COVID recovery and whether to adopt the long COVID terminology – and they must put the patien

In deciding how to act on long COVID, researchers and policymakers must take heed of what happened in the case of myalgic encephalomyelitis, also called chronic fatigue syndrome (ME/CFS). The condition shares some of the symptoms of long COVID, and people with ME/CFS struggled for many years to be recognized as having a serious and debilitating medical condition that needed specialized treatment and research.

> "Researchers and funding agencies must give urgent consideration to the definition of COVID recovery."

Around 40 years ago, people began reporting this previously unrecognized disease. Its symptoms included exhaustion, as well as insomnia, and recurring pain. However, in the early years, few of these reports were considered by funding agencies. It took sustained advocacy from patients' organizations – who had to organize their own independent science advice – to persuade research funders to listen. And although COVID is well known, long COVID isn't – at least, not yet. It is crucial that those with the condition are listened to in a way that, tragically, people with ME/CFS were not.

The difficulties faced by people with ME/CFS and their representatives resulted, in part, from the fact that the patient voice was marginalized. This contributed to delays in the condition being recognized. Sonya Chowdhury, the chief executive of the UK-based patients' group Action for M.E., says that even today, ME/CFS is not well studied.

Moreover, the name chronic fatigue syndrome suggested a condition whose primary symptom was tiredness, when people's experiences are both more painful and more complex. They commonly include recurring pain, which often fluctuates in severity; being unable to sleep; difficulty concentrating; and becoming exhausted after even relatively mild physical activity.

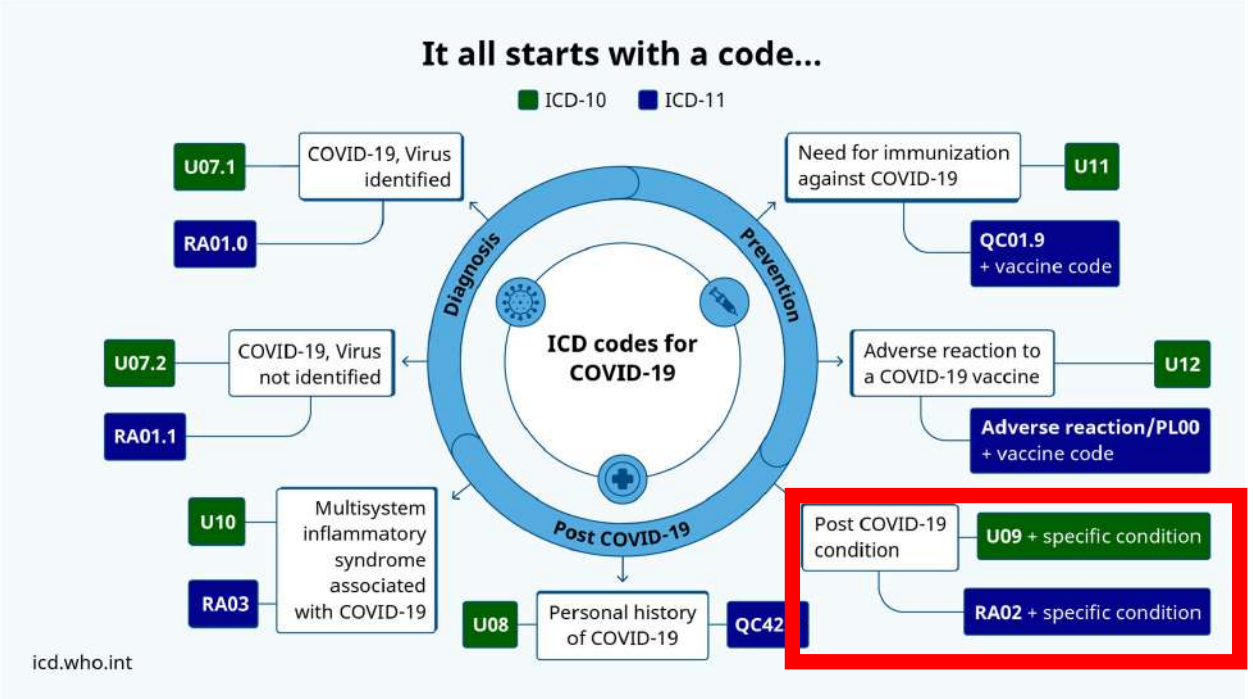
Reaching agreement on the appropriate terminology for long COVID is key, says Felicity Callard, a human geographer at the University of Glasgow, UK, who also has long COVID. Callard and Alwan are among a group of researchers who have experienced long COVID – and who last week wrote a blog post for the *British Medical Journal* (go.nature.com/2sv47wr), urging the research and medical communities to start using the term long COVID, instead of some of the alternatives. Words such as 'post', 'syndrome' and 'chronic' risk delegitimizing suffering, the authors argue, and that will make it harder for people to access care.

Such terms also carry assumptions about the condition's underlying physiology that have not yet been properly investigated. Long COVID, by contrast, states clearly that people's experience of illness after infection is long, but it doesn't presume to know anything else, Callard says.

It seems the WHO is listening. In August, director-gener Tedros Adhanom Ghebreyesus told a meeting of COVI patient groups: "We have received your SOS. We have hea loud and clear that long COVID needs recognition, guid lines, research and ongoing patient input and narrative to shape the WHO response from here on."

some have started to use the term long COVID. Researchers, clinicians and funders must also consider how they will refer to the illness, and how to more accurately define recovery from COVID-19.

And they must always give proper consideration to the voices of people with COVID-19 and their representatives, who have done so much to put long COVID on the health-research and policy agenda.



Asignación provisional de nuevas enfermedades de etiología incierta o de uso emergente (U00-U49)

U08 **Historia personal de COVID-19**

U08.9 **Historia personal de COVID-19, no especificada**

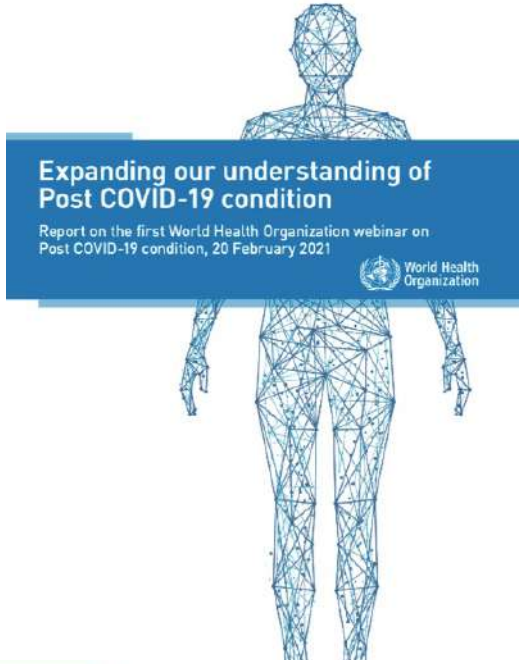
Nota: Este código opcional se utiliza para registrar un episodio anterior de COVID-19, confirmado o probable que influya en el estado de salud de la persona, pero la persona ya no sufre de COVID-19. Este código no debe utilizarse para la tabulación de mortalidad primaria.

U09 **Condición de salud posterior a COVID-19**

U09.9 **Condición de salud posterior a COVID-19, no especificada**

Nota: Este código opcional sirve para permitir el establecimiento de un enlace con COVID-19. Este código no se debe usar en los casos que aún presentan COVID-19.

https://cdn.who.int/media/docs/default-source/classification/icd/covid-19/covid-19-coding-updates-3-4-combined_sp.pdf?sfvrsn=1311a349_3 [Disponible desde Febrero 2020]



Bulletin of the World Health Organization

Perspectives

Towards a universal understanding of post COVID-19 condition

Janet V Diaz,[a] Margaret Herridge,[b] Silvia Bertagnolio,[a] Hannah E Davis,[c] Tarun Dua,[a] Charu Kaushic,[d] John C Marshall,[e] Maria del Rosario Pérez,[a] Nathalie Strub-Wourgaft[f] & Joan B Soriano[a]

15 SEPTEMBER 2022

Clinical management of COVID-19: Living guideline, 15 September 2022

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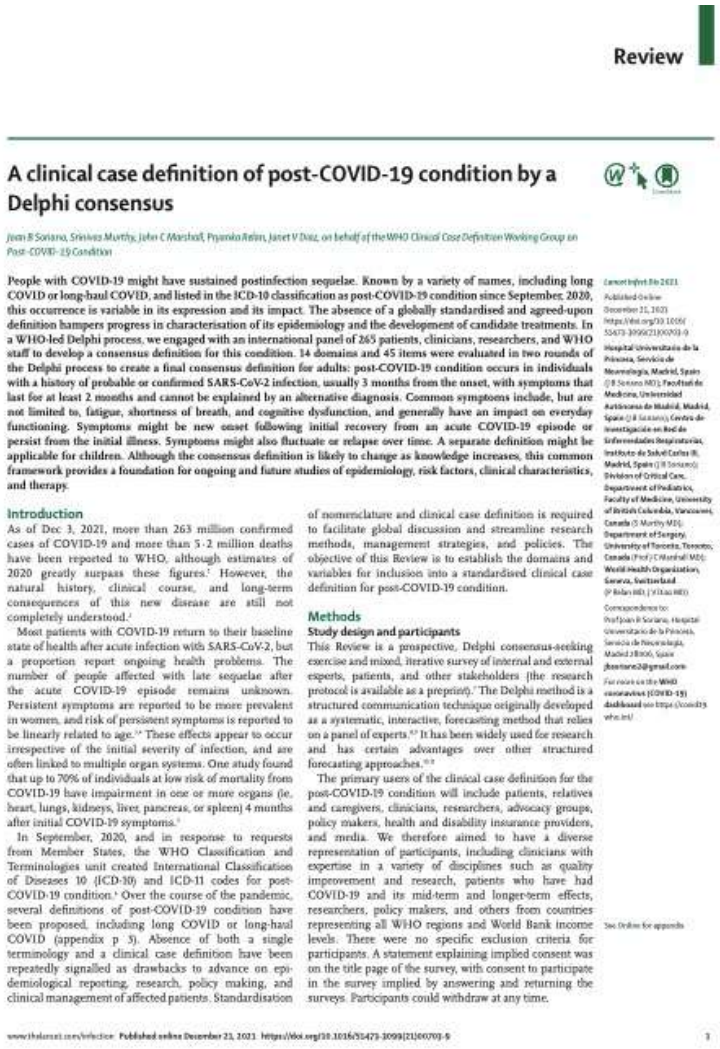
Geneva, CH, October 2020 to July 2021.

On behalf of…

WHO Clinical Case Definition Working Group on Post-COVID-19 Condition

Switzerland Maya Allan, Lisa Askie, Carine Alsokhn, Janet V Diaz, Tarun Dua, Wouter de Groote, Robert Jakob, Marta Lado, Jacobus Preller, Pryanka Relan, Nicoline Schiess, Archana Seahwag, Joan B Soriano. *UK* Nisreen A Alwan. *USA* Hannah E Davis. *Canada* John Marshall, Srinivas Murthy.



Review

A clinical case definition of post-COVID-19 condition by a Delphi consensus

Joan B Soriano, Srinivas Murthy, John C Marshall, Pryanka Relan, Janet V Diaz, on behalf of the WHO Clinical Case Definition Working Group on Post-COVID-19 Condition

People with COVID-19 might have sustained postinfection sequelae. Known by a variety of names, including long COVID or long-haul COVID, and listed in the ICD-10 classification as post-COVID-19 condition since September 2020, this occurrence is variable in its expression and its impact. The absence of a globally standardised and agreed-upon definition hampers progress in characterisation of its epidemiology and the development of candidate treatments. In a WHO-led Delphi process, we engaged with an international panel of 265 patients, clinicians, researchers, and WHO staff to develop a consensus definition for this condition. 14 domains and 45 items were evaluated in two rounds of the Delphi process to create a final consensus definition for adults: post-COVID-19 condition occurs in individuals with a history of probable or confirmed SARS-CoV-2 infection, usually 3 months from the onset, with symptoms that last for at least 2 months and cannot be explained by an alternative diagnosis. Common symptoms include, but are not limited to, fatigue, shortness of breath, and cognitive dysfunction, and generally have an impact on everyday functioning. Symptoms might be new onset following initial recovery from an acute COVID-19 episode or persist from the initial illness. Symptoms might also fluctuate or relapse over time. A separate definition might be applicable for children. Although the consensus definition is likely to change as knowledge increases, this common framework provides a foundation for ongoing and future studies of epidemiology, risk factors, clinical characteristics, and therapy.

Introduction

As of Dec 3, 2021, more than 263 million confirmed cases of COVID-19 and more than 5·2 million deaths have been reported to WHO, although estimates of 2020 greatly surpass these figures.[1] However, the natural history, clinical course, and long-term consequences of this new disease are still not completely understood.[2]

Most patients with COVID-19 return to their baseline state of health after acute infection with SARS-CoV-2, but a proportion report ongoing health problems. The number of people affected with late sequelae after the acute COVID-19 episode remains unknown. Persistent symptoms are reported to be more prevalent in women, and risk of persistent symptoms is reported to be linearly related to age.[3,4] These effects appear to occur irrespective of the initial severity of infection, and are often linked to multiple organ systems. One study found that up to 70% of individuals at low risk of mortality from COVID-19 have impairment in one or more organs (ie, heart, lungs, kidneys, liver, pancreas, or spleen) 4 months after initial COVID-19 symptoms.[5]

In September, 2020, and in response to requests from Member States, the WHO Classification and Terminologies unit created International Classification of Diseases 10 (ICD-10) and ICD-11 codes for post-COVID-19 condition.[6] Over the course of the pandemic, several definitions of post-COVID-19 condition have been proposed, including long COVID or long-haul COVID (appendix p 3). Absence of both a single terminology and a clinical case definition have been repeatedly signalled as drawbacks to advance on epidemiological reporting, research, policy making, and clinical management of affected patients. Standardisation of nomenclature and clinical case definition is required to facilitate global discussion and streamline research methods, management strategies, and policies. The objective of this Review is to establish the domains and variables for inclusion into a standardised clinical case definition for post-COVID-19 condition.

Methods

Study design and participants

This Review is a prospective, Delphi consensus-seeking exercise and mixed, iterative survey of internal and external experts, patients, and other stakeholders (the research protocol is available as a preprint).[7] The Delphi method is a structured communication technique originally developed as a systematic, interactive, forecasting method that relies on a panel of experts.[8,9] It has been widely used for research and has certain advantages over other structured forecasting approaches.[10,11]

The primary users of the clinical case definition for the post-COVID-19 condition will include patients, relatives and caregivers, clinicians, researchers, advocacy groups, policy makers, health and disability insurance providers, and media. We therefore aimed to have a diverse representation of participants, including clinicians with expertise in a variety of disciplines such as quality improvement and research, patients who have had COVID-19 and its mid-term and longer-term effects, researchers, policy makers, and others from countries representing all WHO regions and World Bank income levels. There were no specific exclusion criteria for participants. A statement explaining implied consent was on the title page of the survey, with consent to participate in the survey implied by answering and returning the surveys. Participants could withdraw at any time.

www.thelancet.com/infection Published online December 21, 2021 https://doi.org/10.1016/S1473-3099(21)00703-9

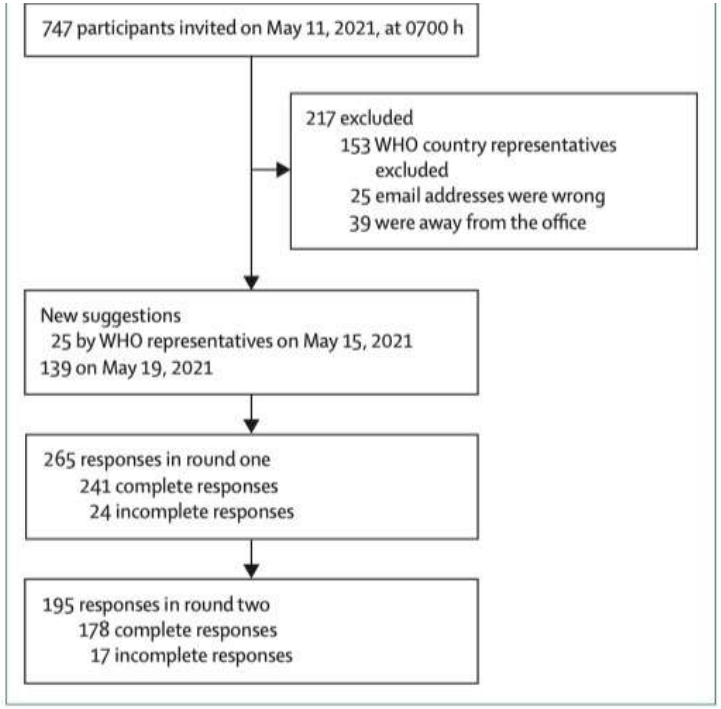
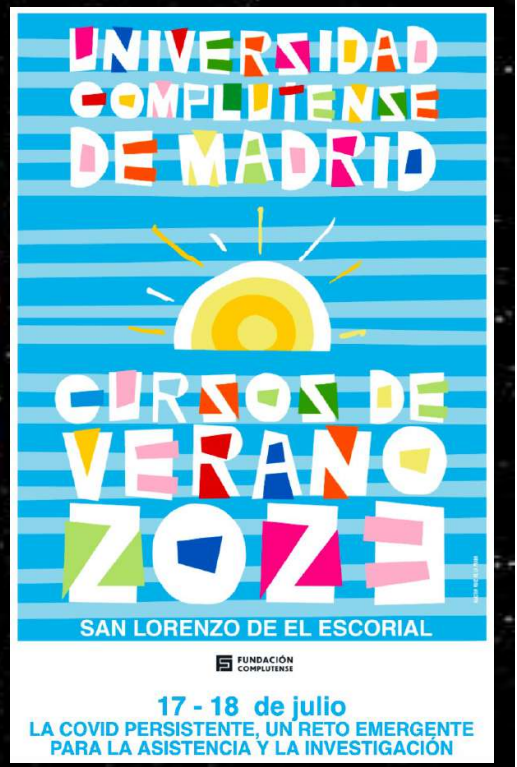


Figure 1: **STROBE flowchart of participation in the two Delphi rounds**

WHO CCD WG. Lancet Infect Dis 2021.

De la definición al síntoma

- Introducción
- Salud vs. Enfermedad
- **Definiciones en Medicina**
- COVID-19 y COVID Persistente
- Conclusiones



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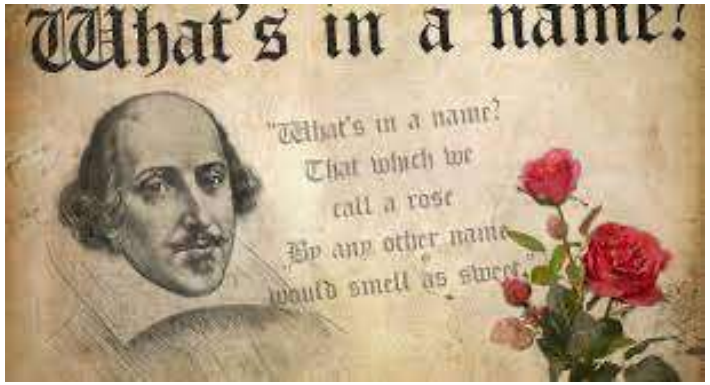
Definiciones …



Asma: *"El asma es como el amor: todo el mundo sabe lo que es, pero nadie se pone de acuerdo en su definición."*

Sida
Fibromialgia
Síndrome Post-UCI
…

Definition of AIDS

AIDS is a syndrome **caused by** the human immunodeficiency virus (**HIV**), which weakens the immune system, making the body vulnerable to infections and diseases

The diagnosis of AIDS is based on the presence of specific clinical criteria, including:

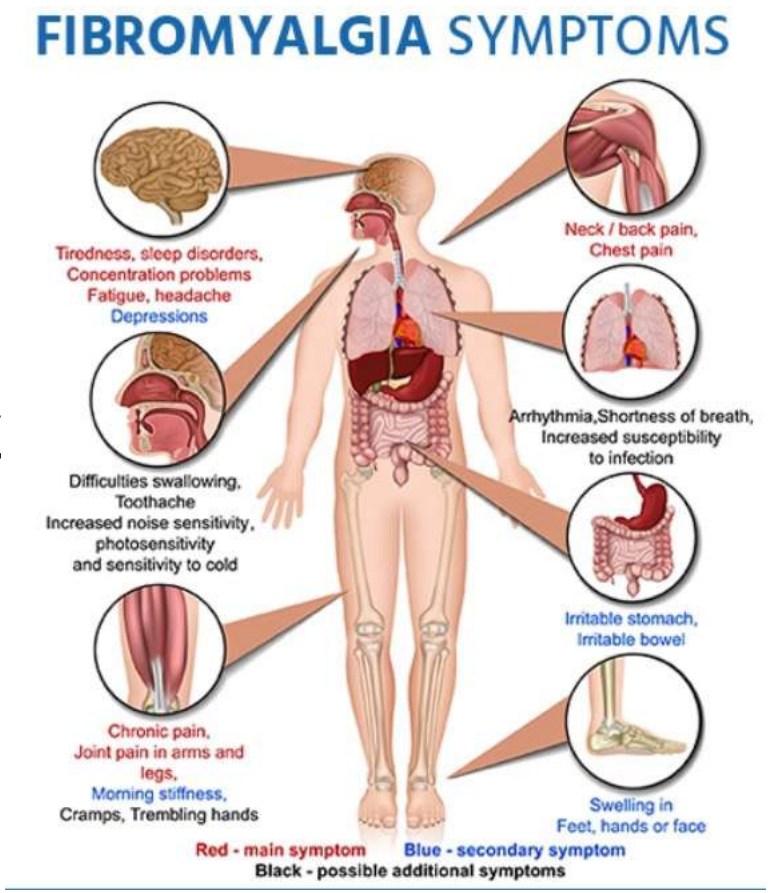
- the occurrence of **opportunistic infections**,
- **certain cancers**,
- and a **decline** in the number of **CD4 cells**

World Health Organization (WHO): "HIV/AIDS"
Available at: https://www.who.int/health-topics/hiv-aids#tab=tab_1

Definition of Fibromyalgia

The American College of Rheumatology (ACR) has established specific criteria for diagnosing fibromyalgia. A person must meet the following criteria:

- **Widespread pain**: The pain must be present in both the left and right sides of the body, as well as above and below the waist. It should have been present for at least three months.
- **Tender points**: The presence of at least 11 out of 18 specified tender points on the body when pressure is applied. These tender points are commonly found in areas such as the neck, shoulders, chest, elbows, hips, and knees.



Wolfe, F., et al. (1990). The American College of Rheumatology 1990 Criteria for the Classification of Fibromyalgia. Arthritis & Rheumatology, 33(2), 160–172. https://doi.org/10.1002/art.1780330203

Controversies on Fibromyalgia

In 2010, the ACR also introduced an alternative diagnostic method: **widespread pain index (WPI) and symptom severity (SS) scale**, considering additional symptoms such as fatigue, sleep disturbances, and cognitive problems.

Other names:

- Central sensitization syndrome
- Myalgic encephalomyelitis
- Chronic fatigue syndrome
- Post-exertional malaise and orthostatic intolerance
- …

Wolfe, F., et al. (2010). 2010 Preliminary Diagnostic Criteria for Fibromyalgia: ACR-Expansion Criteria. Arthritis Care & Research, 62(5), 600–610. https://doi.org/10.1002/acr.20140

National Institute of Arthritis and Musculoskeletal and Skin Diseases. (2017). Fibromyalgia. Retrieved from https://www.niams.nih.gov/health-topics/fibromyalgia

Definition of post-ICU

Post-ICU syndrome describes a range of problems that patients can experience after being discharged from the ICU, including:

- **Physical impairments**: Weakness, muscle wasting, mobility limitations, fatigue, difficulty with activities of daily living, and general physical deconditioning.
- **Cognitive impairments**: Memory problems, difficulties with attention and concentration, decreased executive functioning, and overall cognitive decline.
- **Mental health impairments**: Anxiety, depression, post-traumatic stress disorder (PTSD), and other psychological symptoms related to the ICU experience.

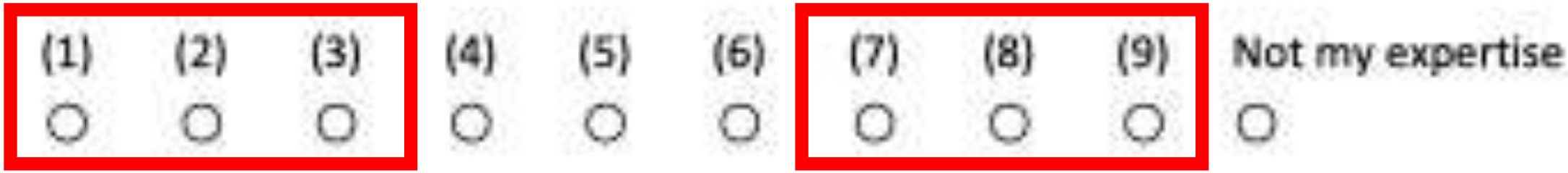
National Institute on Aging: "Post-ICU Syndrome"
Available at: https://www.nia.nih.gov/health/post-icu-syndrome

El Oráculo de Delfos… y el Método de Delphi

Back to 1400 BC, the **Oracle of Delphi** was the most important shrine in all Greece, and in theory all Greeks respected its independence. ... People came from all over Greece and beyond to have their questions about the future answered by the Pythia, the priestess of Apollo.

Reglas estadísticas Método Delphi según Protocolo

- **Consensus'** will be obtained on a question **if 70% or more** of the responses fall within the same response on a 9-point Likert scale.
- **'Disagreement'** will occur **if 35% or more of responses fall in both of the two extreme ranges** of possible options on the Likert scale.
- All other combinations of panel answers will be considered **'partial agreement'**.



De la definición al síntoma

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- **COVID-19 y COVID Persistente**
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History or probable history of SARS-CoV-2 infection

Symptoms present 3 months after infection

Symptoms persist for more than 2 months

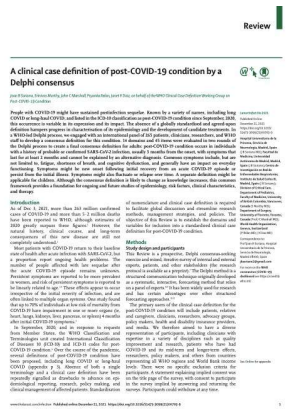
Cannot be explained by an alternative diagnosis

Abdominal pain	Menstrual and period problems	Altered smell/taste	Anxiety	Blurred vision	Chest pain
Brain fog	Cough	Depression	Dizziness	Fatigue	Intermittent fever
GI issues	Memory issues	Joint pain	Muscle pain/spasms	Neuralgias	New-onset allergies
Pins-and-needles sensations	Post-exertional malaise	Shortness of breath	Sleep disorders	Tachycardia/ palpitations	Tinnitus and other hearing issues

WHO Delphi clinical case definition of post COVID-19 condition

"**Post COVID-19 condition** is defined as the condition occurring in individuals **with a history of SARS-CoV-2 infection**, with either laboratory confirmation or not, **occurring three months from the onset of COVID-19 with symptoms lasting for at least two months**. **The symptoms** of post COVID-19 condition (such as **fatigue, shortness of breath, cognitive dysfunction**, …), are **persistent in nature and of new onset**, whatever the number, intensity, or severity, but likely appearing in **clusters**. They have an **impact on everyday functioning**, and **cannot be explained by an alternative diagnosis**.

A separate definition should be explored for **children.**"


Review

A clinical case definition of post-COVID-19 condition by a Delphi consensus

Word count: 96 words, 8 lines size 12 in WORD

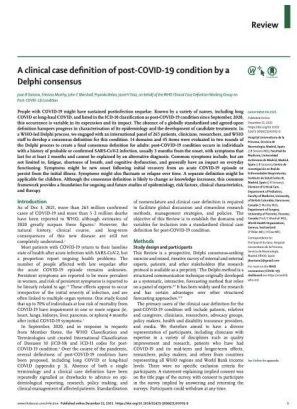
WHO CCD WG. Lancet Infect Dis 2021.

Definición OMS de COVID Persistente

"**La COVID Persistente** se define como el trastorno que ocurre en individuos con **antecedentes de infección por SARS-CoV-2**, con confirmación de laboratorio o no, que **ocurre tres meses desde el inicio de COVID-19 con síntomas que duran al menos dos meses**. **Los síntomas** de la COVID Persistente (como **fatiga, dificultad para respirar, trastornos cognitivos**, etc.) son de **naturaleza persistente y de nueva aparición**, cualquiera que sea el número, la intensidad o la gravedad, pero es probable que aparezcan **en grupos**. Tiene **un impacto en el funcionamiento diario y no puede explicarse por un diagnóstico alternativo**.

Se debe explorar una definición separada en **niños**."

Recuento de palabras: 103 palabras, 8 líneas tamaño 12 en WORD


Review

A clinical case definition of post-COVID-19 condition by a Delphi consensus

WHO CCD WG. Lancet Infect Dis 2021.

Repositorio de otros nombres sugeridos/relacionados con COVID Persistente

Name / Nombre	Referencia
Chronic COVID Syndrome / Síndrome COVID crónico	Baig AM. Med Virol. 2020 Oct 23. doi: 10.1002/jmv.26624.
Late sequelae of COVID-19 / Secuelas tardías de COVID-19	CDC website https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/late-sequelae.html [acceso 29 marzo 2021]
Long covid / Covid larga	Mahase E. BMJ. 2020 Jul 14;370:m2815
Long COVID / COVID larga	Perego E, et al. Wellcome Open Research 2020, 5:224; Editorial. The Royal Society
LONG COVID / COVID LARGA	Nature Editorial [Let patients help define long-lasting COVID symptoms] 8 October 2020; Long COVID Forum 9 - 10 December 2020 from ISARIC/GLOPIDR/LONG COVID Support; Lancet Editorial [Facing up to long COVID] 12 December 2020];
Long haul COVID / COVID de larga duración	Nath A. Long-Haul COVID. Neurology. 2020 Sep 29;95(13):559-560.; Scientific American (By Carolyn Barber on December 29, 2020)];
Long-term COVID-19 / COVID-19 a largo plazo	A special issue of Journal of Clinical Medicine (ISSN 2077-0383)
Post-acute sequelae / Secuelas post-agudas	NIH-National Institutes of Health (USA) https://videocast.nih.gov/watch=38878 [acceso 29 marzo 2021]
Post COVID syndrome / *Síndrome post COVID*	NHS-National Health Service (UK) https://www.england.nhs.uk/coronavirus/post-covid-syndrome-long-covid/ [acceso 29 marzo 2021]
Post-acute COVID-19 / COVID-19 post aguda	Several papers in: BMJ, Eur J Phys Rehabil Med, Eur J Intern Med]
Post-acute sequelae of SARS-CoV-2 infection (PASC) / Secuelas post-agudas de SARS-CoV-2	Subbaraman N. US health agency will invest $1 billion to investigate 'long COVID' Nature. 2021 Mar;591(7850):356. doi: 10.1038/d41586-021-00586-y.

Repositorio de definiciones publicadas/disponibles de COVID Persistente

Source	Text
Wellcome Trust	Síntomas que persisten más de cuatro semanas después del inicio de los síntomas que sugieren COVID-19.
Lancet	Síntomas multiorgánicos después de COVID-19: tos, dificultad para respirar, fatiga, dolor de cabeza, palpitaciones, dolor en el pecho, dolor en las articulaciones, limitaciones físicas, depresión e insomnio, y afectan a personas de diferentes edades.
NICE	Signos y síntomas que se desarrollan durante o después de una infección compatible con COVID-19, continúan durante más de 12 semanas y no se explican por un diagnóstico alternativo.
Scientific American	Individuos cuyos síntomas persisten o se desarrollan fuera de la infección viral inicial, pero se desconoce la duración y la patogenia.
Royal Society	La aparición de episodios persistentes o recurrentes de uno o más de los siguientes síntomas, dentro de las x* semanas posteriores a la infección por SARS-CoV-2 y que continúan durante y* semanas o más.
French H. de Santé	Tres criterios: Haber presentado una forma sintomática de Covid-19; presentar uno o más síntomas iniciales 4 semanas después del inicio de la enfermedad; y ninguno de estos síntomas puede ser explicado por otro diagnóstico.
CDC	Si bien la mayoría de las personas con COVID-19 se recuperan y vuelven a tener una salud normal, algunos pacientes pueden tener síntomas que pueden durar semanas o incluso meses después de la recuperación de COVID-19 enfermedad. Incluso las personas que no están hospitalizadas y que tienen una enfermedad leve pueden experimentar síntomas persistentes o tardíos.
Wikipedia	Cuadro clínico caracterizado por la persistencia de síntomas más allá de las cuatro semanas tras el comienzo de los síntomas agudos de la COVID-19 y que puede incluir síntomas propios de la enfermedad en su fase aguda, síntomas derivados de daños a diferentes órganos producidos por la enfermedad y efectos del tratamiento o la hospitalización por COVID-19. Los síntomas más frecuentes del COVID persistente incluyen fatiga, dificultad para respirar, dificultad para concentrarse, dolor de cabeza, anosmia, tos, depresión, y fiebre baja.
Nature	Síntomas persistentes y/o complicaciones tardías o a largo plazo de la infección por SARS-CoV-2 más allá de las 4 semanas desde el inicio de los síntomas.
NICE	COVID-19 sintomático en curso (4 o 12 semanas) y síndrome post-COVID-19 si continúan durante más de 12 semanas y no se explican por un diagnóstico alternativo, e incluye el Long COVID.
OMS (adultos)	Individuos con antecedentes de infección por SARS-CoV-2 probable o confirmada, generalmente 3 meses después de la infección inicial, con síntomas que duran al menos 2 meses y no pueden explicarse con un diagnóstico alternativo. Los síntomas comunes incluyen, entre otros, fatiga, dificultad para respirar y disfunción cognitiva, y generalmente tienen un impacto en el funcionamiento diario. Los síntomas pueden ser nuevos después de la recuperación inicial de un episodio agudo de COVID-19 o persistir desde la enfermedad inicial. Los síntomas también pueden fluctuar o retroceder con el tiempo. Una definición separada será aplicable para los niños.
OMS (niños)	Niños y adolescentes con antecedentes de infección por SARS-CoV-2 confirmada o probable, cuando los síntomas duran al menos 2 meses que inicialmente ocurrieron dentro de los 3 meses de COVID-19 agudo. La evidencia actual sugiere que los síntomas informados con mayor frecuencia en niños y adolescentes con condición post-COVID-19 en comparación con los controles son fatiga, alteración del olfato/anosmia y ansiedad. También se han informado otros síntomas.* Los síntomas generalmente tienen un impacto en el funcionamiento diario, como cambios en los hábitos alimenticios, actividad física, comportamiento, rendimiento académico, funciones sociales (interacciones con amigos, compañeros, familia) y los hitos del desarrollo. Los síntomas pueden ser nuevos después de la recuperación inicial de un COVID-19 agudo o persistir desde la enfermedad inicial. También pueden fluctuar o recaer con el tiempo. El estudio puede revelar diagnósticos adicionales, pero esto no excluye el diagnóstico de COVID Persistente. Se puede aplicar a niños de todas las edades, teniendo en cuenta síntomas específicos de la edad e impacto en la vida cotidiana.
CIBERPOSTCOVID	Conjunto multiorgánico y variado de manifestaciones y síntomas no atribuibles a otras causas que perduran o fluctúan durante un período mínimo de 3 meses tras la fase de infección aguda de COVID-19. Las manifestaciones y síntomas más frecuentes son los sistémicos (como la fatiga), los neurocognitivos (como la niebla mental o confusión) y los respiratorios o cardiovasculares además de otros como los neurológicos, neuromusculares o psicológicos y psiquiátricos.
NIH	Definición de PASC a los 6 meses de la infección inicial: malestar post-esfuerzo, fatiga, niebla mental, mareos, síntomas gastrointestinales, palpitaciones, cambios en el deseo o capacidad sexual, pérdida o cambio en el olfato o el gusto, sed, tos crónica, dolor en el pecho y movimientos anormales. Un 10% de pacientes tuvieron PASC a los 6 meses.

DEFINICIÓN OPERATIVA DE COVID PERSISTENTE Y ELEMENTOS CLAVE EN EL CIBERPOSTCOVID

Manifestaciones y síntomas más frecuentes

SISTÉMICOS
Fatiga, falta de energía y/o debilidad, malestar general, fiebre

NEUROCOGNITIVOS
Pérdida de memoria, dificultad de concentración, "niebla mental" o confusión

RESPIRATORIOS O CARDIOPULMONARES
Tos, dolor de garganta, disnea, presión en el pecho

MUSCULO-ESQUELÉTICOS
Dolor articular o muscular, limitación en la movilidad

NEUROLÓGICOS O NEUROMUSCULARES
Distorsión del olfato y/o el gusto, cefalea, falta de reflejos

PSICOLÓGICOS Y PSIQUIÁTRICOS
Ansiedad, depresión o alteraciones del sueño

Curso de las manifestaciones o síntomas

Síntomas clínicos que se mantienen o fluctúan

Duración y gravedad

Mínimo de 3 meses (12 semanas) tras la fase aguda

Gravedad medida a partir de escalas funcionales validadas

Definición conceptual:

Conjunto de síntomas multiorgánicos variados no atribuibles a otras causas que perduran tras la fase aguda de la infección de COVID-19

Líneas y factores de investigación futura

Subpoblaciones de interés: infantil, adolescente, adulta, mayor de 65 años

Momento/características de la infección y aspectos contextuales (ex. biológicos, clínicos y gravedad)

Perspectiva de género

Problemas de salud previos

Ingreso en hospital/UCI por infección COVID-19

Necesidad de medir el impacto en la calidad de vida

Calidad de vida relacionada con la salud

Función física

Función psicológica

Actividades de la vida diaria

Actividad social y familiar

Rendimiento y bajas laborales

Aspectos necesarios para el diagnóstico

Descartar otros problemas de salud a los que se pueda atribuir la sintomatología

Conocer los problemas de salud previos del o de la paciente

Tener en cuenta posibles daños orgánicos o secuelas producidas por la infección aguda de SARS-CoV-2 y sus tratamientos en la valoración diagnóstica de COVID persistente

Disponer de un diagnóstico previo de infección aguda de COVID-19 en la historia clínica y/o pruebas de laboratorio clínico (confirmación por PCR o test de antígenos)

CIBERES & CIBERESP. J of Infect and Public Health 2023 (in press)

Definición OMS de COVID Persistente en niños

"**La COVID Persistente** se define en niños y adolescentes como el trastorno que ocurre en individuos con **antecedentes de infección por SARS-CoV-2**, con confirmación de laboratorio o no, que **ocurre tres meses desde el inicio de COVID-19 con síntomas que duran al menos dos meses**. **Los síntomas** de la COVID Persistente (como **fatiga, trastornos del olfato/anosmia, ansiedad**, u otros.) son de **naturaleza persistente y de nueva aparición**, pero es probable que aparezcan **en grupos**. Estudios complementarios pueden revelar diagnósticos adicionales, pero ello no excluye el diagnóstico de COVID Persistente. Esta definición puede aplicarse a niños de todas las edades, **con síntomas específicos e impacto en la vida cotidiana según la edad**."

Recuento de palabras: 111 palabras, 11 líneas tamaño 12 en WORD

https://www.who.int/publications/i/item/WHO-2019-nCoV-Post-COVID-19-condition-CA-Clinical-case-definition-2023-1

JAMA | Original Investigation

Development of a Definition of Postacute Sequelae of SARS-CoV-2 Infection

Tanayott Thaweethai, PhD; Sarah E. Jolley, MD, MS; Elizabeth W. Karlson, MD, MS; Emily B. Levitan, ScD; Bruce Levy, MD; Grace A. McComsey, MD; Lisa McCorkell, MPP; Girish N. Nadkarni, MD, MPH; Sairam Parthasarathy, MD; Upinder Singh, MD; Tiffany A. Walker, MD; Caitlin A. Selvaggi, MS; Daniel J. Shinnick, MS; Carolin C. M. Schulte, PhD; Rachel Atchley-Challenner, PhD; RECOVER Consortium Authors; Leora I. Horwitz, MD; Andrea S. Foulkes, ScD; for the RECOVER Consortium

IMPORTANCE SARS-CoV-2 infection is associated with persistent, relapsing, or new symptoms or other health effects occurring after acute infection, termed *postacute sequelae of SARS-CoV-2 infection* (PASC), also known as *long COVID*. Characterizing PASC requires analysis of prospectively and uniformly collected data from diverse uninfected and infected individuals.

OBJECTIVE To develop a definition of PASC using self-reported symptoms and describe PASC frequencies across cohorts, vaccination status, and number of infections.

DESIGN, SETTING, AND PARTICIPANTS Prospective observational cohort study of adults with and without SARS-CoV-2 infection at 85 enrolling sites (hospitals, health centers, community organizations) located in 33 states plus Washington, DC, and Puerto Rico. Participants who were enrolled in the RECOVER adult cohort before April 10, 2023, completed a symptom survey 6 months or more after acute symptom onset or test date. Selection included population-based, volunteer, and convenience sampling.

EXPOSURE SARS-CoV-2 infection.

MAIN OUTCOMES AND MEASURES PASC and 44 participant-reported symptoms (with severity thresholds).

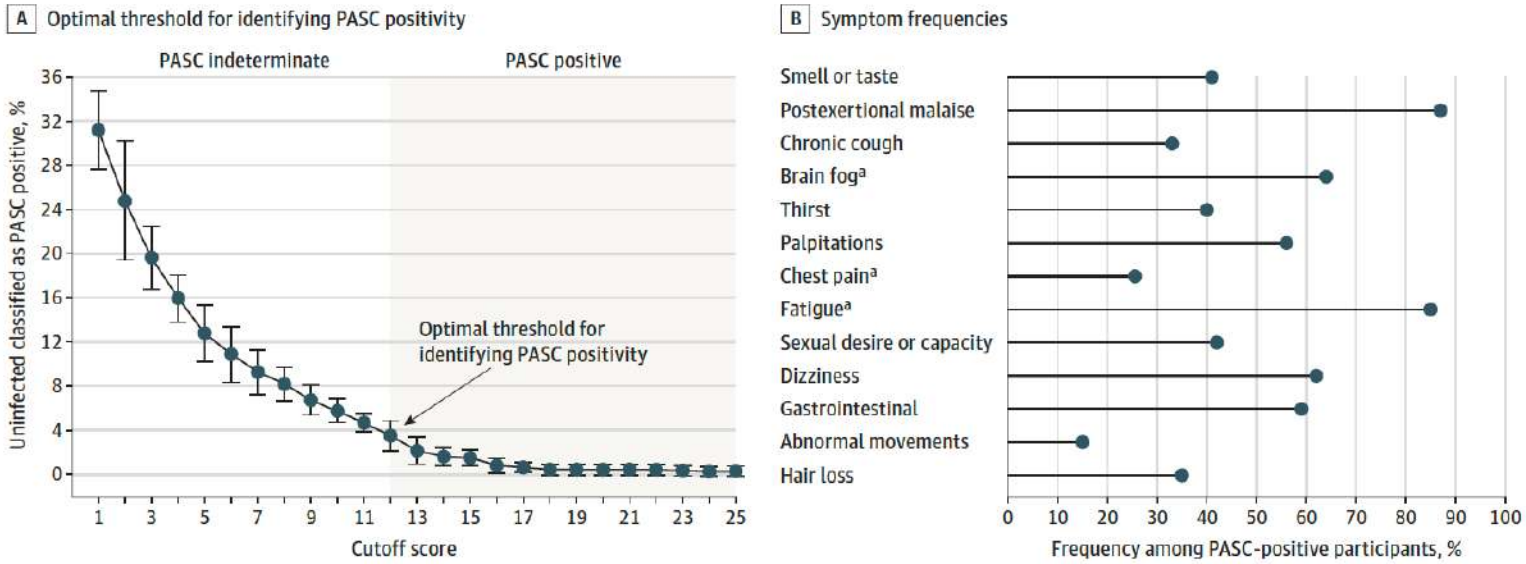
RESULTS A total of 9764 participants (89% SARS-CoV-2 infected; 71% female; 16% Hispanic/Latino; 15% non-Hispanic Black; median age, 47 years [IQR, 35-60]) met selection criteria. Adjusted odds ratios were 1.5 or greater (infected vs uninfected participants) for 37 symptoms. Symptoms contributing to PASC score included postexertional malaise, fatigue, brain fog, dizziness, gastrointestinal symptoms, palpitations, changes in sexual desire or capacity, loss of or change in smell or taste, thirst, chronic cough, chest pain, and abnormal movements. Among 2231 participants first infected on or after December 1, 2021, and enrolled within 30 days of infection, 224 (10% [95% CI, 8.8%-11%]) were PASC positive at 6 months.

CONCLUSIONS AND RELEVANCE A definition of PASC was developed based on symptoms in a prospective cohort study. As a first step to providing a framework for other investigations, iterative refinement that further incorporates other clinical features is needed to support actionable definitions of PASC.

Table 2. Model-Selected Symptoms That Define PASC and Their Corresponding Scores[a]

Symptom	Log odds ratio	Score
Smell/taste	0.776	8
Postexertional malaise	0.674	7
Chronic cough	0.438	4
Brain fog[b]	0.325	3
Thirst	0.255	3
Palpitations	0.238	2
Chest pain[b]	0.233	2
Fatigue[b]	0.148	1
Sexual desire or capacity	0.126	1
Dizzines	0.121	1
Gastrointestinal	0.085	1
Abnormal movements	0.072	1
Hair loss	0.049	0

Figure 2. Defining the Postacute Sequelae of SARS-CoV-2 Infection (PASC) Score and a Decision Rule



Thaweethai T, et al. JAMA 2023.

REiCOP

1. **COVID-19 agudo**: Signos y síntomas de la COVID-19, tras su contagio, que se pueden extender hasta a unas 4 semanas desde el contagio.
2. **Secuelas de la COVID-19**, denominadas frecuentemente post-COVID: Existe el antecedente de una afectación grave por la COVID-19 en su fase aguda, que, frecuentemente, ha requerido ingreso hospitalario, incluso en unidades de críticos, y que presentan síntomas derivados de secuelas posteriores al daño estructural de las complicaciones sufridas.
3. **COVID Persistente o Long COVID** (CP/LC): Complejo sintomático multiorgánico que afecta a aquellos pacientes que han padecido la COVID-19 (con diagnóstico confirmado por pruebas de laboratorio o sin él) y que permanecen con sintomatología tras la considerada fase aguda de la enfermedad, pasadas 4 e incluso 12 semanas, persistiendo los síntomas en el tiempo.

GUÍA CLÍNICA PARA LA ATENCIÓN AL PACIENTE LONG COVID/COVID PERSISTENTE

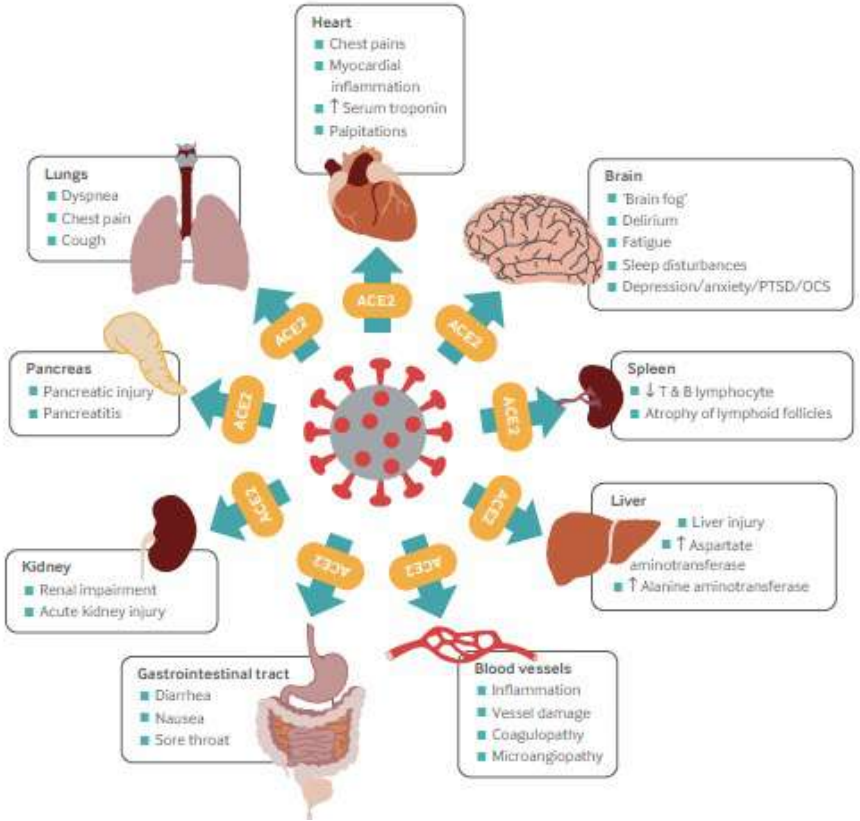
Coordinan:

SEMG Sociedad Española de Médicos Generales y de Familia

LongCovidACTS

Siete mecanismos implicados (al menos…)

1. Inflamación/estados hiperinflamatorios
2. Desregulación inmune/autoinmune
3. Coagulación/vasculopatía
4. Toxicidad viral directa/persistencia viral/ infección a largo plazo
5. Disfunción autonómica/neurológica
6. Endocrino/metabólico
7. y Mala adaptación del receptor ACE-2



Probablemente, muchos interactúan sinérgicamente

Crook H, et al. BMJ 2021.

News in focus

NIH WILL INVEST $1 BILLION TO STUDY 'LONG COVID'

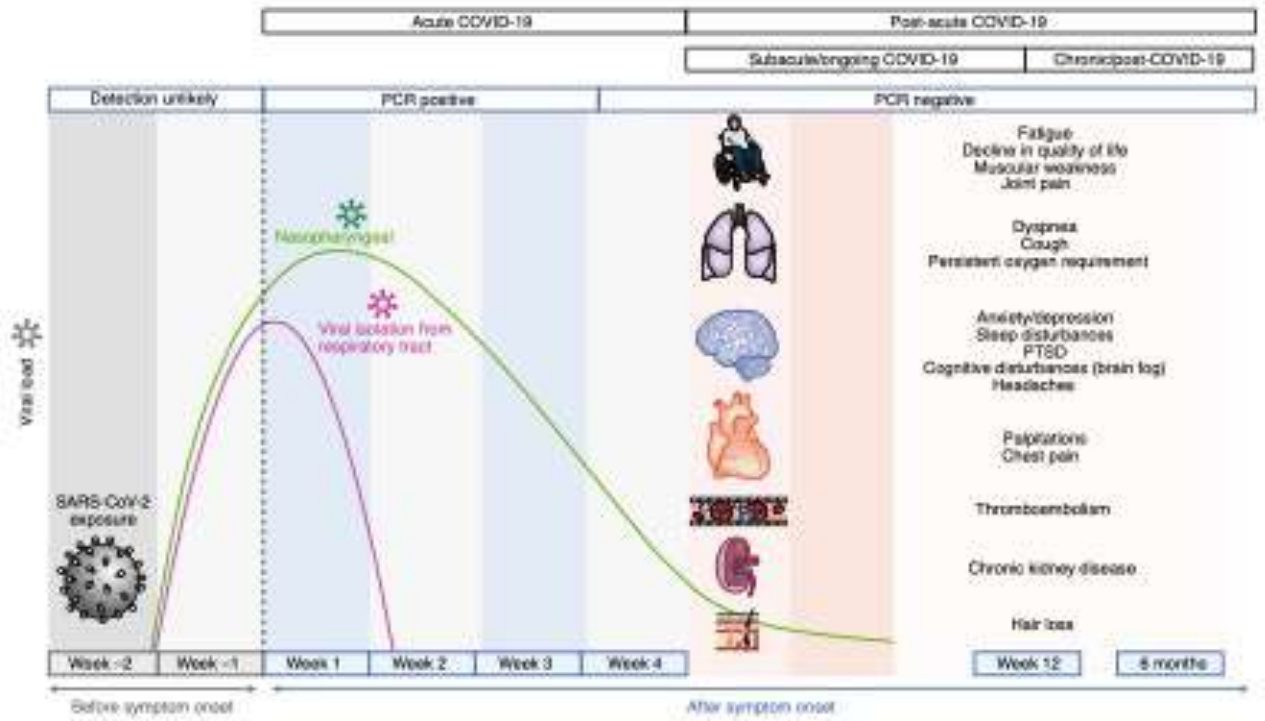
US health agency will fund researchers to track people's recovery.

News in focus - 4 March 2021

nature medicine
FOCUS | REVIEW ARTICLE
https://doi.org/10.1038/s41591-021-01283-z

Post-acute COVID-19 syndrome

Ani Nalbandian[1,2,4], Kartik Sehgal[2,3,4,24] ✉, Aakriti Gupta[1,5,6], Mahesh V. Madhavan[1,3],



Nature Medicine | Vol 586 | 22 March 2021

Article

SARS-CoV-2 infection and persistence in the human body and brain at autopsy

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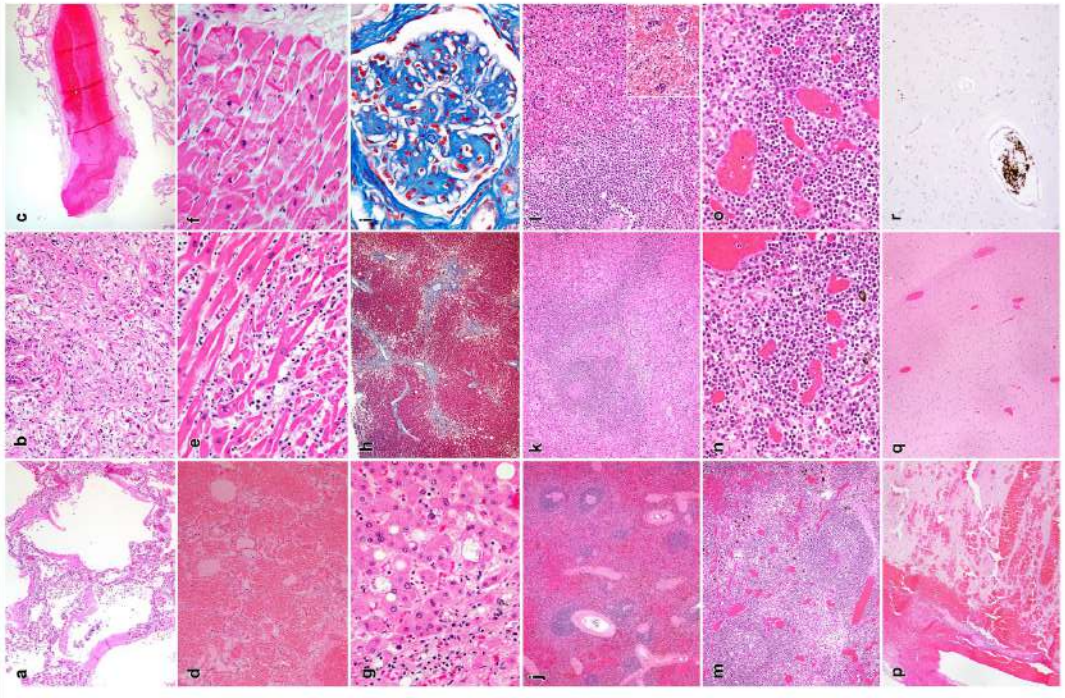
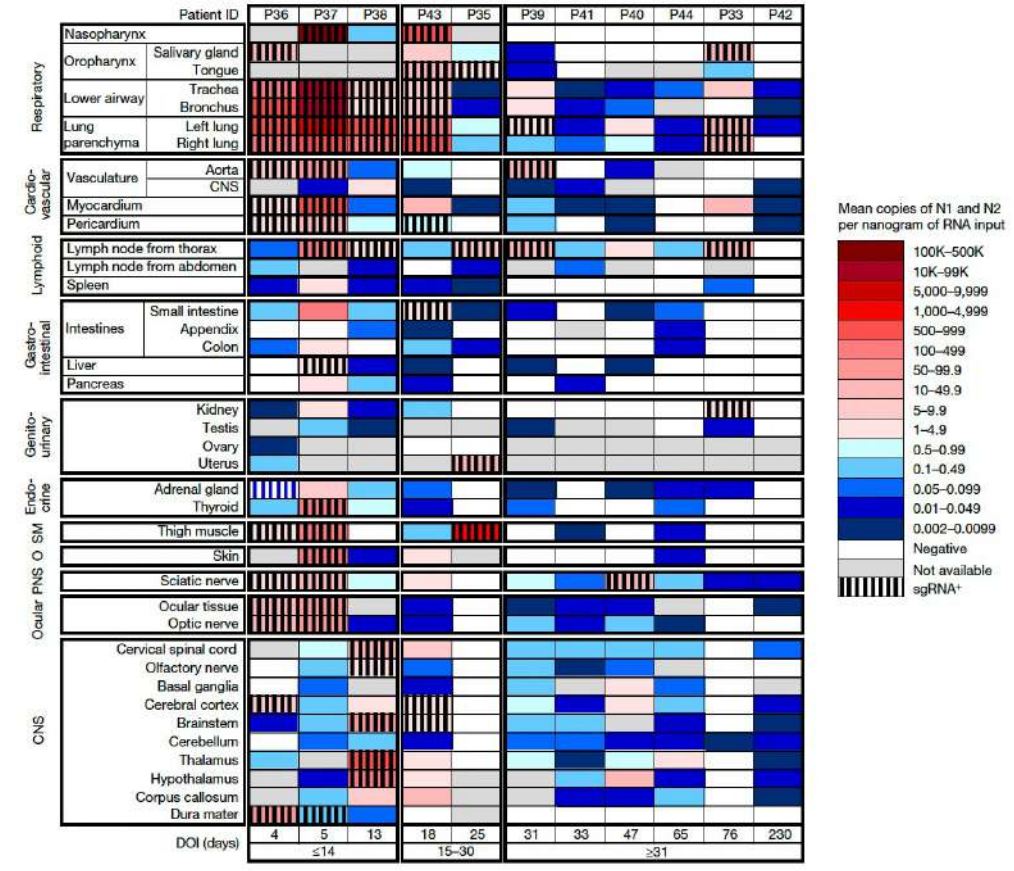
Check for updates

Sydney R. Stein[1,2], Sabrina C. Ramelli[3], Alison Grazioli[4], Joon-Yong Chung[5], Manmeet Singh[6], Claude Kwe Yinda[6], Clayton W. Winkler[7], Junfeng Sun[3], James M. Dickey[1,2], Kris Ylaya[5], Sung Hee Ko[8], Andrew P. Platt[1,2], Peter D. Burbelo[9], Martha Quezado[5], Stefania Pittaluga[5], Madeleine Purcell[10], Vincent J. Munster[6], Frida Belinky[8], Marcos J. Ramos-Benitez[1,2,11], Eli A. Boritz[8], Izabella A. Lach[1,2], Daniel L. Herr[12], Joseph Rabin[13], Kapil K. Saharia[14,15], Ronson J. Madathil[16], Ali Tabatabai[17], Shahabuddin Soherwardi[18], Michael T. McCurdy[17,19], NIH COVID-19 Autopsy Consortium*, Karin E. Peterson[7], Jeffrey I. Cohen[20], Emmie de Wit[6], Kevin M. Vannella[1,2], Stephen M. Hewitt[5], David E. Kleiner[5] & Daniel S. Chertow[1,2]



Article



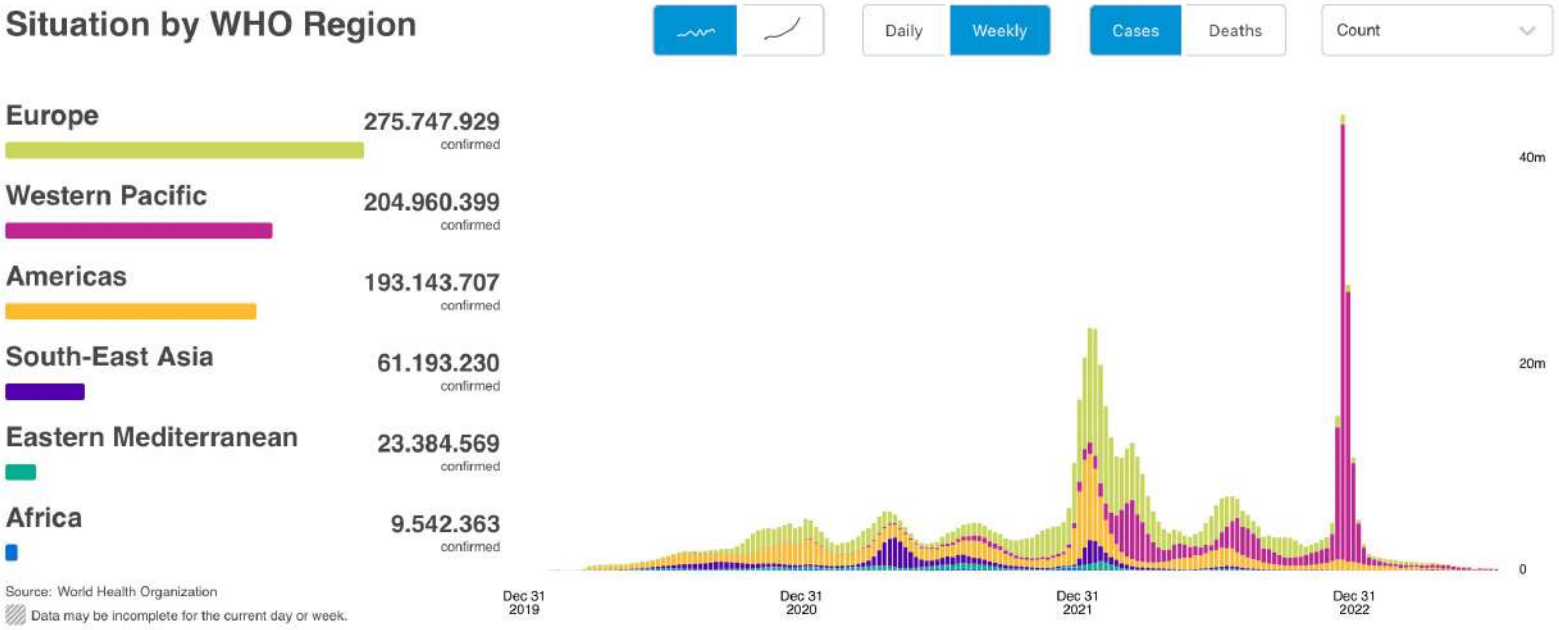
Stein SR, et al. Nature 2022.

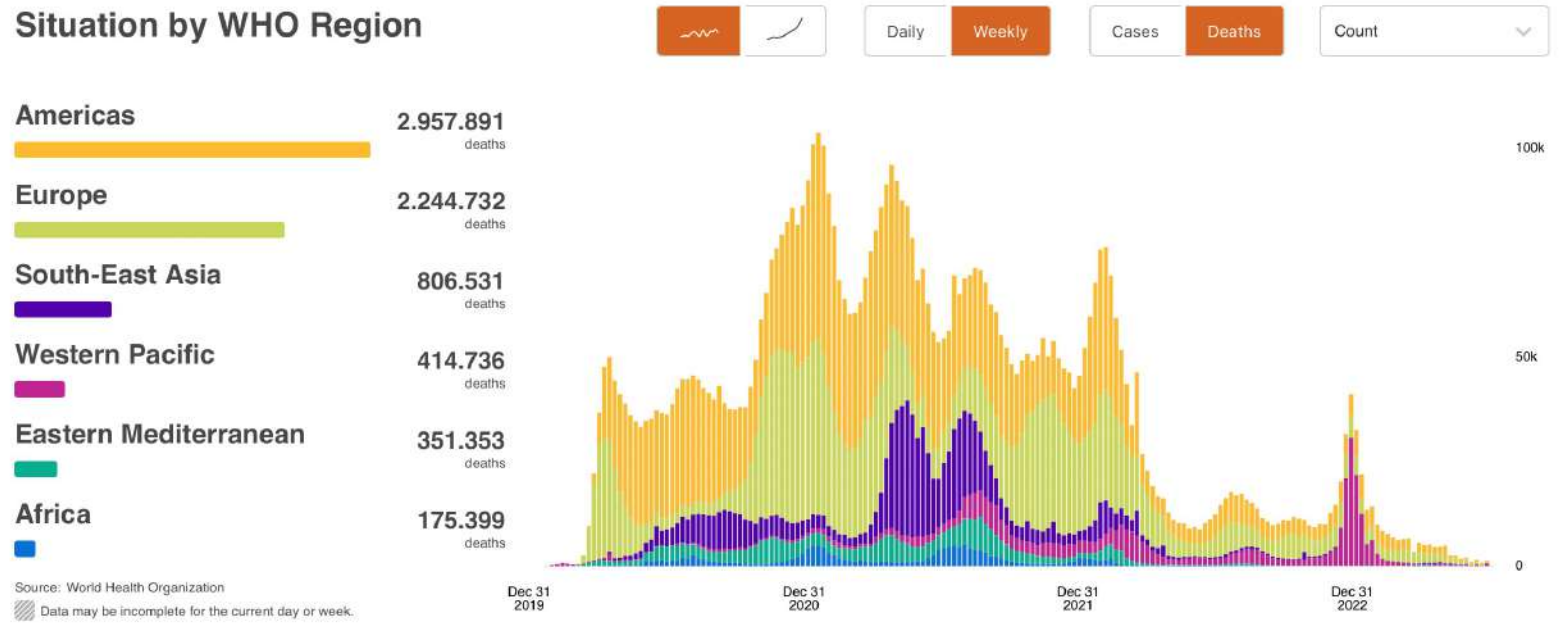
La medicina DEBE ocuparse principalmente de

(No) CASOS

(Sí) PERSONAS

¡SALUTOGÉNESIS *versus* PATOLOGÍA!





Globally, as of **12 July 2023**, there have been:

- **767.972.961 confirmed cases** of COVID-19,
- **6.950.655 deaths**, reported to WHO.
- **13.462.024.421 vaccine doses** have been administered.

https://covid19.who.int

14 julio 2023

JAMA | Original Investigation

Estimated Global Proportions of Individuals With Persistent Fatigue, Cognitive, and Respiratory Symptom Clusters Following Symptomatic COVID-19 in 2020 and 2021

Global Burden of Disease Long COVID Collaborators

Location	Pandemic start	Symptomatic infections during 2020-2021[b] (UI)	New cases of Long COVID during 2020 (UI)	New cases of Long COVID during 2021 (UI)
United States of America	January 2020	77,800,000 (62,000,000–92,300,000)	1,020,000 (425,000–2,160,000)	3,620,000 (1,480,000–7,490,000)
Southern Latin America	February 2020	11,600,000 (8,220,000–16,000,000)	183,000 (70,600–393,000)	533,000 (202,000–1,180,000)
Argentina	February 2020	8,290,000 (5,440,000–12,400,000)	130,000 (48,900–286,000)	388,000 (140,000–861,000)
Chile	February 2020	2,790,000 (2,040,000–3,640,000)	52,100 (19,500–114,000)	112,000 (42,200–243,000)
Uruguay	February 2020	520,000 (387,000–669,000)	450 (142–1,060)	33,100 (13,300–71,300)
Western Europe	December 2019	72,700,000 (58,100,000–87,400,000)	898,000 (371,000–1,840,000)	3,080,000 (1,280,000–6,310,000)
Andorra	February 2020	34,400 (23,800–45,700)	564 (206–1,220)	1,210 (457–2,860)
Austria	February 2020	1,530,000 (1,150,000–2,050,000)	7,590 (3,030–16,600)	67,000 (24,900–143,000)
Belgium	February 2020	3,050,000 (2,270,000–3,930,000)	40,700 (16,400–88,800)	108,000 (43,300–228,000)
Cyprus	February 2020	153,000 (117,000–202,000)	292 (107–683)	7,640 (3,110–16,000)
Denmark	February 2020	659,000 (500,000–859,000)	6,140 (2,260–13,000)	23,800 (9,610–48,800)
Finland	December 2019	420,000 (300,000–589,000)	3,730 (1,500–7,900)	13,600 (5,530–28,700)
France	February 2020	12,500,000 (8,970,000–17,800,000)	175,000 (65,000–378,000)	513,000 (203,000–1,090,000)
Germany	January 2020	10,900,000 (8,560,000–13,400,000)	55,800 (23,200–114,000)	424,000 (173,000–874,000)
Greece	February 2020	1,190,000 (918,000–1,460,000)	3,110 (1,120–7,100)	56,700 (22,700–120,000)
Iceland	February 2020	21,900 (16,800–27,800)	292 (115–621)	627 (256–1,310)
Ireland	February 2020	847,000 (597,000–1,250,000)	9,480 (3,300–21,300)	30,000 (11,300–65,800)
Israel	February 2020	1,540,000 (1,200,000–1,910,000)	25,700 (10,400–53,800)	67,200 (26,800–146,000)
Italy	January 2020	8,540,000 (6,620,000–10,800,000)	107,000 (44,800–219,000)	433,000 (180,000–907,000)
Luxembourg	February 2020	117,000 (89,000–148,000)	1,180 (455–2,540)	5,210 (2,070–11,000)
Malta	February 2020	47,800 (36,800–59,300)	349 (149–743)	2,720 (1,150–5,620)
Monaco	February 2020	6,150 (4,570–8,090)	29 (13–62)	268 (118–541)
Netherlands	February 2020	3,790,000 (2,860,000–5,330,000)	42,000 (16,100–92,100)	145,000 (57,400–302,000)
Norway	February 2020	486,000 (348,000–678,000)	4,150 (1,570–9,260)	16,300 (6,670–34,500)
Portugal	February 2020	1,670,000 (1,210,000–2,270,000)	13,800 (5,230–30,700)	94,100 (38,000–198,000)
San Marino	February 2020	11,800 (8,670–15,000)	183 (73–390)	460 (188–976)
Spain	February 2020	8,240,000 (6,260,000–10,600,000)	168,000 (73,200–348,000)	373,000 (153,000–797,000)
Sweden	February 2020	1,610,000 (1,240,000–2,040,000)	30,400 (12,000–64,500)	73,700 (31,100–154,000)
Switzerland	February 2020	1,540,000 (1,160,000–2,000,000)	9,810 (3,930–21,400)	63,000 (25,400–133,000)
United Kingdom	January 2020	13,800,000 (10,900,000–16,400,000)	191,000 (78,600–398,000)	560,000 (233,000–1,160,000)

At least 17 million people in the WHO European Region experienced long COVID in the first two years of the pandemic

Location	Pandemic start	Symptomatic infections during 2020-2021[b] (UI)	New cases of Long COVID during 2020 (UI)	New cases of Long COVID during 2021 (UI)
Spain	February 2020	8,240,000 (6,260,000–10,600,000)	168,000 (73,200–348,000)	373,000 (153,000–797,000)

Se estima que en España, hay cerca de 541,000 personas (y el umbral superior es hasta más de un millón) con COVID persistente en los dos primeros años de la pandemia

Wulf Hanson S, et al. JAMA 2022.

Medical News & Perspectives

How Primary Care Physicians Can Recognize and Treat Long COVID

Esther Wei-Yun Landhuis, PhD

First she had heart palpitations, a bad headache, a spike in blood pressure. Then came tingling and numbness in her foot and hand, along with crushing fatigue. Some days, 53-year-old Susan Jeansonne, MD, could not keep her eyes open past 5 PM.

Yet her electrocardiogram, blood counts, and basic laboratory results all looked fine. So "I just kind of went on about my business," said Jeansonne, a pediatrician who offers home-based care in Kingsport, Tennessee, recalling her January 2022 symptoms in a recent interview with *JAMA*.

Medical News website

But before long, things got worse. Vacationing with family that March at Universal Orlando in Florida, Jeansonne—a self-proclaimed gym rat who hikes and farms and lives with 3 big dogs on 77 acres—could barely walk. "It felt like I couldn't quite

1. **Crea al paciente**. "Dígaselo en voz alta. -Te creo, y trabajaré contigo para tratar de hacerte sentir major, a pesar de que todo es nuevo y sabemos muy poco aún."
2. **Profundice en los síntomas**: "¿Con qué frecuencia ocurren? y ¿Cómo afectan a su capacidad para llevar a cabo las actividades diarias normales?""
3. **Aborde la fatiga:** "Si los pacientes dejan de hacer sobreesfuerzos, empiezan a sentirse mejor.
4. **Utilice estrategias generales**: hidratación, vendajes de compresión, ejercicio horizontal gradual, ….

Wei-Yun Landhuis E. JAMA 2023.

COVID-19, nuclear war, and global warming: lessons for our vulnerable world

The COVID-19 pandemic teaches lessons we must embrace to overcome two additional existential threats: nuclear war and global warming. Health professionals need to send a message to those whose lives we have vowed to protect: all three threats result from forces of nature made dangerous by triumphs of human intelligence, and all three can be solved by human intelligence.[1–3]

Albert Einstein warned that "the unleashed power of the atom has changed everything save our modes of thinking and we thus drift toward unparalleled catastrophe".[4] The nuclear threat plus global warming led the Bulletin of the Atomic Scientists to advance the Doomsday Clock to 100 seconds before midnight—the closest ever—just before the pandemic.

Although it may seem overwhelming to contemplate additional threats during COVID-19, we must address all three since they are the greatest dangers ahead. Their origins and solutions are remarkably similar.

COVID-19 is the most visible. Had the outbreak happened before air travel, the mutant virus would have remained in China and spread slowly, if at all. Today, we face a permanent threat of future pandemics—genes will continue to mutate and planes will continue to fly.

Nuclear war is the least visible threat, as well hidden as the virus of a bat in a cave near Wuhan. It is, however, the most likely to have an immediate, devastating impact. In a city hit with a nuclear weapon, by intent or by accident, there would be no decisions about which patient to treat with the remaining ventilator.[1–4]

Global warming is the threat most certain to generate future harm, although human suffering will spread more slowly than with nuclear war or a pandemic.[5]

The global response to COVID-19 is a source of hope. Scientists launched an inspiring counterattack on the coronavirus. Clinicians, often risking their own lives, rushed to bedsides.

The struggles against these threats teach valuable lessons. First, each threat must be recognised. Second, political leaders must respect truth and defer to expertise. Third, the threats are global and require global cooperation. Fourth, we all have to focus on our collective survival, and that includes care for the least privileged.

The world need not be the same after the pandemic. It can be better. A COVID-19-induced awakening can arrest our drift toward catastrophe. Health professionals, uniquely aware of the threats, have an obligation to enhance understanding of the requirements for survival in the 21st century.

JEM is a co-founder of International Physicians for Prevention of Nuclear War, the organisation awarded the 1985 Nobel Peace Prize. DGN is a co-founder of Physicians for Social Responsibility. We declare no competing interests.

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Brigham and Women's Hospital (JEM), Dana-Farber Cancer Institute (DGN), and Boston Children's Hospital (DGN), Harvard Medical School, Boston, MA 02115, USA

1 Ghinai I, McPherson TD, Hunter JC, et al. First known person-to-person transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in the USA. Lancet 2020; 395: 1137–44.

2 Erven RR, Glazier JB, Ammons S, et al. Human and ecologic effects in Massachusetts of an assumed thermonuclear attack on the United States. N Engl J Med 1962; 266: 1127–37.

3 Lown B, Chivian E, Muller J, Abrams H. The nuclear-arms race and the physician. N Engl J Med 1981; 304: 726–29.

4 Abrams HL. Inadvertent nuclear war. Lancet 1988; 2: 559–60.

5 Watts N, Amann M, Arnell N, et al. The 2019 report of The Lancet Countdown on health and climate change: ensuring that the health of a child born today is not defined by a changing climate. Lancet 2019; 394: 1836–78.

6 The New York Times Archives. The Einstein letter that started it all; a message to President Roosevelt 25 years ago launched the atom bomb and the atomic age. Aug 2, 1964. https://www.nytimes.com/1964/08/02/archives/the-einstein-letter-that-started-it-all-a-message-to-president.html (accessed June 10, 2020).

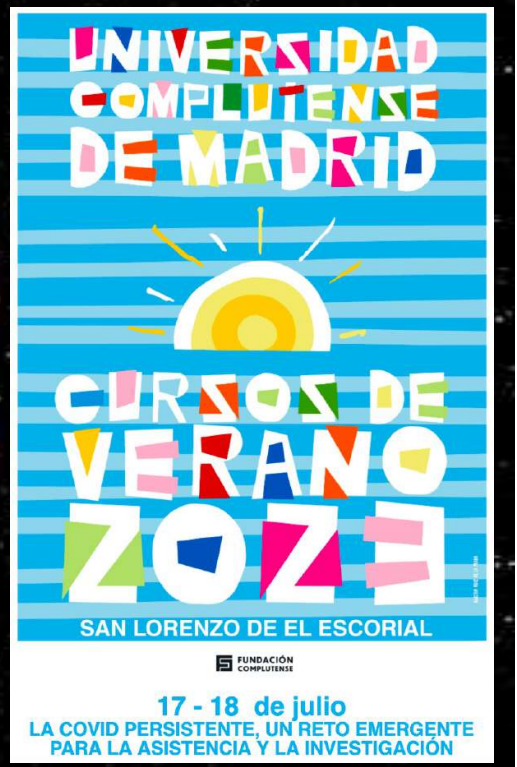
www.thelancet.com Published online June 12, 2020 https://doi.org/10.1016/S0140-6736(20)31379-9

1. Each threat must be **recognised**
2. Political leaders **must respect truth and defer to expertise**
3. The threats are global and require **global cooperation**
4. We all have to focus on our collective survival, and that includes **care for the least privileged**

Muller JE, Nathan DG. Lancet 2020.

De la definición al síntoma

- Introducción
- Salud vs. Enfermedad
- Definiciones en Medicina
- COVID-19 y COVID Persistente
- **Conclusiones**



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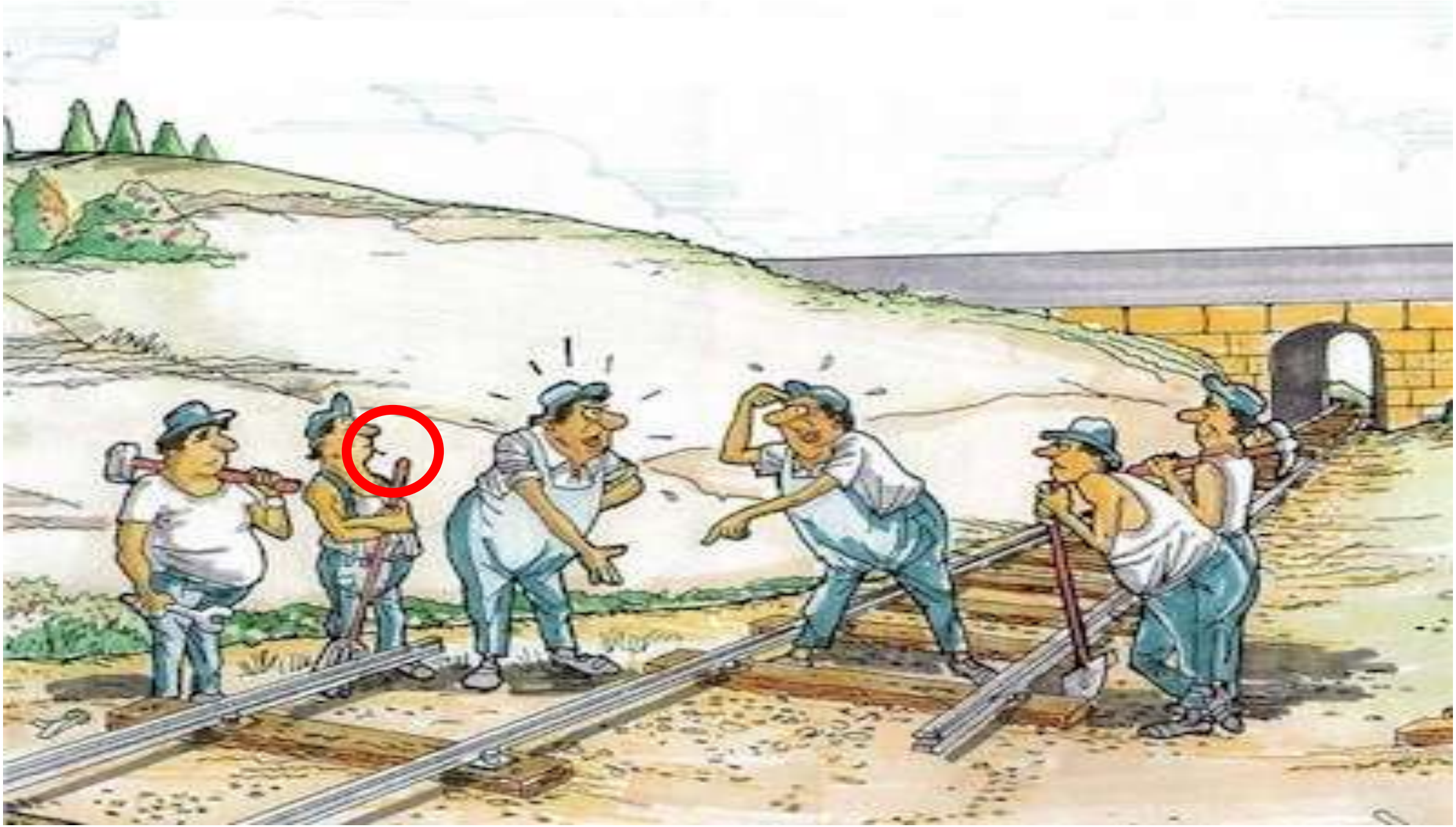
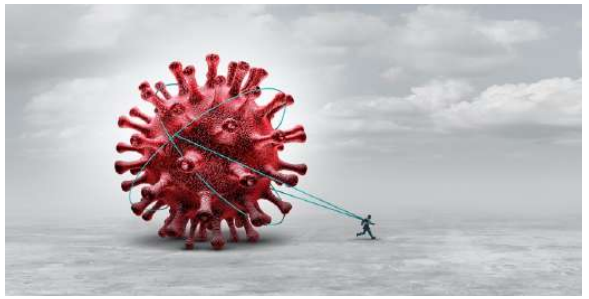
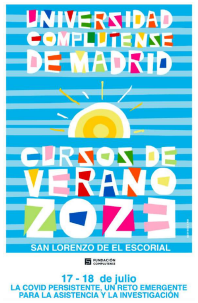


The more I study, the less I know, …
but the more I have fun!

Mario Capecchi, Nobel Prize of Medicine 2007

Conclusiones





- La definición (y el nombre) es un primer paso en la dirección correcta para establecer un diálogo entre especialistas y especialidades
- La COVID Persistente es un gran desafío clínico (¡y no fácil!)
- Necesidad urgente de cuantificar umbrales, duraciones y tiempos

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